BEYOND "THE DESERT AND THE SOWN": PEASANTS, PASTORALISTS, AND CLIMATE CRISES IN OTTOMAN DIYARBEKIR, 1840-1890

by

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Abstract

This dissertation refocuses attention from a 'clash of cultures' to a 'clash of environmental economies' within the eastern regions of the nineteenth-century Ottoman Empire, particularly the province of Diyarbekir. An account of changing patterns of climate provides an alternative vantage point on the origins of inter-social relationships within this region. In the aftermath of intermittent climate-induced environmental crises, peasants and pastoralists confronted different challenges. Overall, crop-based economies could recover more quickly than herding-based economies. Given enough water and seed, and normal weather conditions, farmers could replant and expect good harvests the following season. However, pastoralists, who either lost or sold most of their animals as a result of lack of food and water needed many seasons of abundant grass and water to rebuild their herds to their former size. Examining episodes of severe climate in the Ottoman east in the 1840s and 1880s, this study presents evidence that the different timetables for recovery following episodes of environmental crisis were consequential for understanding changing relationships between people, land, and animals as well as relations between communities.

Acknowledgements

The history of this dissertation began on a September morning in 2011 in the Asian and African Studies Reading Room, located on the third floor of the British Library. It continued for almost a year in the British National Archives in Kew over many cups of coffee and long chats. In Istanbul, I spent almost two years in the Ottoman Archives which were still located at Gülhane.

During my research, I was witness to many historical moments in Turkey and neighbouring regions that made it very difficult to maintain my focus on this project. In the summer of 2013, history was rewritten when millions of people throughout Turkey took to the streets against corruption, injustice, and police violence, a protest that began in Istanbul along the main thoroughfare, İstiklal Avenue after the municipality threatened to destroy Gezi Park in Taksim Square. With other citizens, we were subjected to teargas, water guns, and direct police violence in May and June of that year. The following summer, from afar, I monitored the revolt in Syria and brave resistance of Kurdish women and men in the city of Kobani who continue to defy the extremism that is enveloping the region.

The June 7, 2015 elections in Turkey brought a new party into government that represented millions of people who have dreamt of peace, freedom, and justice for all Turkey's citizens, regardless of religion, sexual orientation, or ethnicity, made us hopeful. But this dream was short lived. The state unleashed violence against Kurdish civilians in the eastern part of the country and broke off negotiations that would have resulted in longterm peace. A century after the massacres and mass deportation of Armenians in 1915, the cities of Diyarbekir and Cezire are again witnessing state violence against civilians. Hundreds children, women, and men have been killed or injured by special military forces; tens of thousands of civilians have been displaced from their towns and villages. The final sentences of this dissertation were written while reading news about the imposition of martial law and curfews throughout eastern Turkey.

My dissertation project would not have been completed without the boundless support of my mentor and advisor, Ariel Salzmann, who encouraged me to think in an inter-disciplinary way and to understand history from a scientific perspective. She supported the new findings of my study even when I was afraid to put them into words or express them confidently. Her ideas and questions enabled me to begin to understand the complex nature of environmental history and to explore this project in the context of global history.

I also deeply appreciate the continuing encouragement of my committee members. Emily Hill's knowledge of Chinese environmental history was very helpful for understanding the approach of the traditional imperial state to environmental disasters. Adnan Husain carefully read and made suggestions on the first draft. Alan Mikhail joined the project at a later stage and his remarks at the defense will be invaluable as I begin to transform this dissertation into a book.

Although he was not member of the committee, Fikret Adanır's advice and critical reading of my introduction pushed me to present my findings more clearly. In Istanbul, Selçuk Esenbel opened her house and heart to me while I conducted research in the archives and began writing the dissertation. I am indebted to her intellectual and moral support. In Kingston, Adnan Husain's family has been extremely generous. Indeed, I will always remember the delicious apple pie that his wife, Professor Margaret Aziza Pappano, made for us to enjoy. In Turkey and North America, I would like to acknowledge my gratitude to Colin Duncan, Metin Kunt, Mete Tunçay, Ali Yaycıoğlu, Oktay Özel, and Sandra den Otter for their encouragement and support.

This project could not have been accomplished without the support of key institutions in Canada, United Kingdom, and Turkey. A Queen's University Dean's Travel Grant (2011) facilitated my first research trip to Istanbul's Prime Minister's Archive. In addition to fellowship funding from the Queen's University's Department of History, I was the beneficiary of an Institute of Historical Research (IHR) Mellon Fellowship for Doctoral Research in the Humanities (2011-2102) that enabled me to work in archives in the United Kingdom. During my stay as a fellow in London Derek Keene's mentorship afforded insight into urban history; Miles Taylor's advice on both British imperial history and the city of London turned my archival research into a London adventure. James Leese and the IHR Library staff kindly helped solve the bureaucratic problems that I encountered. As it turned out, I was fortunate enough to be able to conduct my research at the old building and not in the new, but very dark and often damp edifice that now houses the Ottoman collections. I am indebted to Sabancı University's History Program and Queen's University's Ban Righ Women's Centre for their financial support at critical stages in the research and writing of this dissertation.

To my friends, I owe a special debt of gratitude. In Istanbul, Cihangir Gündoğdu, Vural Genç, Bülent Genç, and Gülay Yılmaz provided me with invaluable support. Vural was not only a good friend but also an excellent teacher, who taught me how to read *siyakat* (Ottoman financial shorthand) writing. He was always generous and helpful when I had difficulties reading

Ottoman Turkish documents. Özge Özenç always asked provocative questions about my research. Yavuz Aykan was always available to answer my questions whether he was in Paris, Münich or Istanbul. Savas Sarıaltun helped me to make maps. Melis Taner found every article that I could not access through our library collection. I am indebted to Etrit Shkreli and Önder Kücükkural who welcomed me into their family. Our long discussions on "Moda Teras" (our terrace which served as a type café in the house) allowed me to contextualize historical documents in a different way. Etrit listened enthusiastically and patiently when I explained the historical issues that I was researching and her questions led to new insights. In London, my little sister, Emel Pehlivan, opened her house to me and provided accomodations and turned my nine months of research into an adventure that few doctoral students experience, balancing demanding, daily trips to archives and libraries with outings to museums and concerts.

In our little Kingston "village," (as I have called its from the day I stepped off the bus) Deanne van Tol and Michael Kottelenberg offered their home and friendship as a refuge whenever I felt homesick. In Toronto, Montreal, London, and Kingston life would not have been so fun without many friendships with Deanne, Mary Chaktsiris, Peter Price, Jawad Qureshy, Dave Francoeur, Jie Deng, Carlos Hernandez, Georgia Carley, Ayca Tomaç, and Burcu Baba. I would also like to acknowledge Serdar and Kate Yüksel's family for their help and support. I am gratefull to Mehmet Karabela for his intellectual curiosity, support, and faithful companionship. My special thanks to Poyraz Kolluoğlu, who always invited me share a meal by saying '*açsan gel, yemegim var*' (come on, if you are hungry, there's food), especially in those last months of writing when I was literally living in my office. Melek, the dog, provided me with much needed distraction from intellectual matters.

In London, too, I made many life-long friendships particularly among fellow students and scholars working in the the National Archives in Kew. Owen Miller, Yalçın Murgul, and Daniel MacArthur were warm and supportive. Although we did not often agree about many topics in our discussions, Yalçın always astonished me with his deep knowledge of Ottoman history.

As an intellectual environment, Koç University's Research Centre for Anatolian Civilization in Beyoğlu served as more than a library for me. Their librarians, Özge Ertem and Akın Özarslantürk, created an excellent atmosphere for inter-disciplinary research. I had the wonderful opportunity to talk about what I read in documents with many friends including: Ali Sipahi, Yavuz Sezer, Yaşar Tolga Cora, Burcu Gurgan, Edip Gölbaşı, and Ulaş Karakoç. I would

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From beginning to end, this project would not be possible without my mentor Ariel Salzmann, who always reminded me that I must approach the dissertation as a many-faceted problem to be considered in space and time, rather than as institutional and linear ("*tarih boyunca*….") historical account. More than an academic advisor, I count her as a close friend.

Finally, I would like to thank my family – my parents, Abdurezzak and Bahriye, sisters, brothers, cousins, nephews and nieces, uncles and aunts, who despite questioning whether I had the best choice of careers and research topics, supported me nonetheless. In this regard, I could not have succeeded without the help and moral support of my *ağabey* Ali.

This dissertation is dedicated to the memory of *keke*, my father who passed away on November 23, 2009 during the first semester of my Ph.D studies. An oral historian -- in Kurdish, a *dengbêj* -- he instilled in his daughter a deep love for studying about our past.

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List of Abbreviations

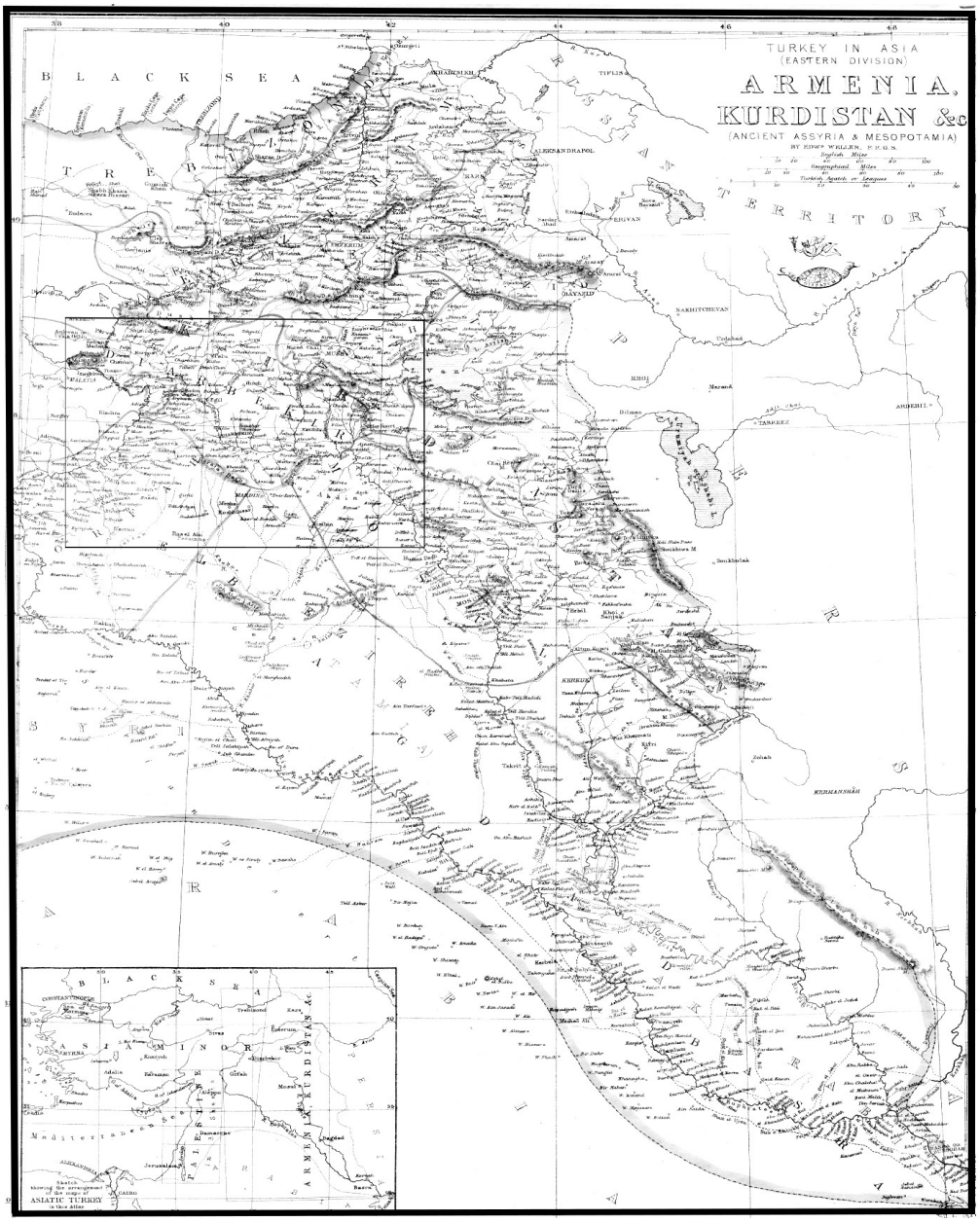
BOA	Başbakanlık Osmanlı Arşivi, Istanbul
A DVN MHM.	Divan-ı Hümayun Muhimme Kalemi
A DVN	Divan-ı Hümayun Kataloğu
A MKT MHM	Sadaret Mektubi Muhimme Kalemi
A MKT MVL	Meclisi Vala
A MKT UM	Umum Vilayet
A MKT	Mektubi Kalemi
BEO	Bab-i Ali Evrak Odası
C İKT	Cevdet İktisat
C SH	Cevdet Sıhhiye
DH İD	Dahiliye Nezareti İdare-i Umumiye
DH MKT	Dahiliye Nezâreti Mektubî Kalemi
DH TMIK M	Dahiliye Nezâreti Tesrî-i Muamelãt
HAT	Hatt-ı Hümayun
İ DH	İrâde Dahiliye
İ HUS	İrâde Hususi
İ MVL	İrâde Meclisi Vala
İ TNF	İrade Ticaret ve Nafiya
ML EVM	Evamir-i Maliye Kalemi Defterleri
ML VRD	Vâridât Muhasebesi Defterleri
MV	Meclisi Vükela Mazbataları
MVL	Meclis-i Vâlâ
NFS.d	Nüfus Defterleri
Y MTV	Yıldız Mütenevvî Maruzat
Y PRK	Yıldız Perakende Evrakı
Y PRK A	Sadaret Maruzatı
Y PRK ASK	Askeri Maruzat
Y PRK UM	Umum Vilayetler Tahriratı
Y PRK KOM	Yıldız Komisyonlar Evrakı
TNA	The National Archives, Kew Gardens, London
A&P	House of Commons and Parliamentary Papers, Accounts and Papers
FO	Foreign Office
WO	War Office
MHK	The National Archives, Maps

Glossary

Ağa/Agha	Landlord or military officer
Ambar	Storehouse
Bey	Notable
Çay	Stream
Dağ/Dagh	Mountain
Defterdar	Director of the financial administration of a province
Dere	Rivulet or stream
K(g)uruş	Piaster
Kaza	District of a *vilayet*
Kaymakam	Governor of *kaza*
Kelek	Raft
Kile	Bushel, One kile-i Amedi equals to 12.828 kg. One Mardin *kile* equals to 20.527 kg. One İstanbul *kile* equals to 24.215 kg.
Köy	Village
Mutasarrif	Governor of a *sancak*
Nahiye	Administrative subdivision of a *kaza*
Nehir	River
Ova	Plain
Paşa	The highest title of civil and military officials
Şomar	A measure for cereals, one ş(s)omar equals to 16 kg.
Sancak	Subdivision of a province
Su	Water, river
Shinik	Bushel, one fourth of a *kile*
Tanzimat	Ottoman political reform movement 1839-1876
Tezek	Dried dung
Vali	Governor of a province
Vilayet	Province
Yayla	Summer pasture grounds
Zaptiye	Gendarmerie

Notes on Transliteration and Dates

All names and places are given using Ottoman Turkish spelling, with the exception of commonly known place names such as Aleppo or Baghdad. Dates are given using the Common Era calendar system. For archival documents using *Hicri* or *Rumi* calendar systems, both the original date and the conversion to the Common Era Calendar are provided in the footnotes.



Map 1.1. Ottoman Empire in Asia: Eastern Division

Source: *Turkey in Asia (Eastern Division) Armenia, Kurdistan &c. (Ancient Assyria & Mesopotamia) Lithographed and Engraved by Edward Weller* (London: Weekly Dispatch, 1863.)

Chapter 1

Introduction

On July 9, 1905 a dispatch was sent from Istanbul to the authorities in Diyarbekir, a city that lies in the southeastern corner of today's Turkey (see Map 1.1).[1] It referred to the drought and locust which had devastated pasture-lands and fields, forcing members of one of the larger Kurdish confederations, the Millu, and other tribes from the "desert quarter" and the region of Mardin to migrate toward the eastern suburbs of the city. It seems that these desperate tribesmen and women had begun to raid farmlands and villages. As a result, the Sublime Porte ordered a company of soldiers to drive them westward from their campgrounds toward Karaca Mountain.

The events of 1905 were not normal. Although tribes raided villages from time to time, the escalation of these confrontations was unusual. Indeed, the conflict between what has been called "the desert and the sown" was a product of extreme weather conditions.[2] Environmental changes had destroyed the grazing areas of many pastoralists

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[1] Başbakanlık (Prime Ministry) Archives (BOA), BEO 2637/197712, 6 Cemaziyelevvel 1323/July 9, 1905.

[2] The phrase of "the Desert and the Sown" was used firstly by Orientalist traveller Gertrude Bell to examine the relationship between nomadic and settled people. Gertrude Bell, *The Desert and the Sown* (New York: E.P. Dutton and Company, 1907). Historian Arnold Toynbee also describes the relationship between settled and nomadic peoples as conflictual. Arnold J. Toynbee, *A Study of History*, vol. III (Oxford: Oxford University Press, 1961), 16.

who, in order to save their animals, moved toward the immediate hinterland of cities and other agricultural zones. Predictably, such a diversion from the usual migration routes brought the tribes into conflict with peasants (as well as with the Ottoman state). This dissertation reconstructs the historical impact of climate change, particularly periods of drought, on what had been compatible forms of ecological adaptations to the geography of the greater province of Diyarbekir. By understanding how climate change affects peasants and pastoralists differently, it demonstrates that conflict was not an inherent or inevitable outcome of this relationship. Rather, these clashes were the outcome of the cumulative impact of periods of extreme weather conditions in this region.

The geographical focus of this dissertation is the province of Diyarbekir, a region that lies geographically between the Mediterranean, Persian Gulf, and Black Sea basins. The time frame for my investigation is bracketed by two important political disruptions that adversely affected the province. The first was the political upheaval and after the revolt and repression of Bedirhan Bey (1803-1868), the hereditary Kurdish governor of the Cezire-Bohtan region (the southeastern districts of the province), which occurred between 1846 and 1847.[3] After breaking the rebellion and replacing Bedirhan Bey with a central state appointee, the Ottoman government cultivated new political alliances with other local actors including Muslim and Christian notables, religious sheiks, and the

[3] See Ahmet Kardam, *Cizre - Bohtan Beyi Bedirhan: Direniş ve İsyan Yılları* (Ankara: Dipnot, 2011).

leaders of important Kurdish tribes.[4] The period ends with another major political and social crisis, as relationships between religious communities in the eastern provinces of Van, Sivas, Urfa, and Diyarbekir, deteriorated.[5] Muslim assaults on Christian communities and their property were widespread in the countryside and pogroms took place within the city of Diyarbekir itself.

Without denying the importance of geopolitics and inter-communal violence that frame the period, my research is concerned with examining the environmental conditions affecting the populations of this region during the half-century that separates these two events. The dissertation foregrounds a series of environmental crises that help us better to understand the changing relationships between communities. Extreme variations in climate are a particularly salient feauture of these decades. Indeed, I consider the impact of the intermittent cycles of El Niño [El Niño Southern Oscillations] from the 1840s to 1890s to be an overarching characteristic of this period's history, affecting all facets of economic, social, and political relations within the eastern provinces of the Ottoman Empire, particularly the province of Diyarbekir. Employing an a climatic-environmental

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[4] See Sabri Ateş, *The Ottoman-Iranian Borderlands: Making a Boundary, 1843-1914* (Cambridge: Cambridge University Press, 2013).

[5] See Selim Deringil, "'The Armenian Question Is Finally Closed': Mass Conversions of Armenians in Anatolia during the Hamidian Massacres of 1895–1897," *Comparative Studies in Society and History* 51, no. 2 (2009): 344–71; Joost Jongerden, "Elite Encounters of a Violent Kind: Milli İbrahim Paşa, Ziya Gökalp and Political Struggle in Diyarbekir at the Turn of the 20th Century," in *Social Relations in Ottoman Diyarbekir, 1870–1915*, ed. Joost Jongerden and Jelle Verheij (Leiden: Brill, 2012), 55–84.

approach in this dissertation entails emphasizing two sets of variables: first, the relationship between human beings, domesticated animals, and their ecology/ecosystems; and second, the implications of extreme weather conditions on peasant and pastoral lifestyles and economies as they struggled to find the means to adapt to new conditions and recover from environmental disasters. Emphasizing environmental variables does not mean, however, that this study ignores other important factors, namely social structure, war, and state policies. In fact, changing weather patterns did not only affect agriculturalists and nomadic herders but also challenged the Ottoman state's institutional capacity to cope with repeated disasters and the resulting social upheaval.[6]

Environmental Approaches to Ottoman History

My research seeks to contribute to areas of historical research: the environmental history of the Middle East and the history of the interaction between pastoralism and agriculture. It is particularly concerned with documenting the changing conditions of agriculture and breeding of livestock in the province of Diyarbekir.

Although limited in scope, research based on environmental approaches to the history of the ancient and medieval Middle East is well established. From the 1970s

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[6] By climate I mean "the time-averaged precipitation and wind patterns created by the poleward redistribution" of solar energy. Mike Davis, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (London: Verso, 2002), 214.

onward, historians began to employ interdisciplinary methods to reconstruct environmental conditions that affected political change in the region.[7] In addition to research that considered the long-term impact of water-control on regional development,[8] Richard Bulliet's *The Camel and the Wheel* (1975) must be considered one of the pioneering studies in this new literature dedicated to the study of the environment.[9] Examining archeological, biological, and technological evidence on the domestication of camels, Bulliet concluded that the absence of a road network for wheeled traffic in Arabia posed no limitation to local populations. Camels were ideally suited to the environment. The development of a new type of saddle enabled the early Islamic conquests.

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[7] For an overview on the Middle Eastern environmental history from antiquity to the nineteenth century, see Sam White, "Middle East Environmental History: Ideas from an Emerging Field," *World History Connected* 8, no. 2 (2011); Alan Mikhail, "Global Implications of the Middle Eastern Environment," *History Compass* 9/12 (2011): 952–70; Alan Mikhail, "The Middle East in Global Environmental History," in *A Companion to Global Environmental History*, ed. J.R. McNeill and Erin Steward Mauldin (Malden: Wiley-Blackwell, 2012), 167–81.

[8] In addition to Karl August Wittfogel's environmentally deterministic, Karl A. Wittfogel, *The Hydraulic Civilizations* (University of Chicago Press, 1956); Karl A. Wittfogel, *Oriental Despotism: A Comparative Study of Total Power* (New Haven: Yale University Press, 1957); see also Peter Christensen, *The Decline of Iranshahr: Irrigation and Environments in the History of the Middle East, 500 BC to AD 1500* (Copenhagen: Museum Tusculanum Press, 1993).

[9] Richard W. Bulliet, *The Camel and the Wheel* (Cambridge, Mass: Harvard University Press, 1975); For the author's recent studies on environmental history of the Middle East see "The Camel and the Watermill," *International Journal of Middle East Studies* 42, no. 4 (2010): 666–68; *Cotton, Climate, and Camels in Early Islamic Iran: A Moment in World History* (New York: Columbia University Press, 2011).

Another early scholar of the region's environmental history was Michael W. Dols. Dols' research documented the demographic consequences of the first and second episodes of Bubonic plague in central Islamic lands.[10] Stuart Borsch followed up Dols' study with a comparison of the longer-term economic impact of plague in England and Egypt. He argued that it was not environmental factors alone, but patterns of land tenure that resulted in England's recovery and the Mamluk Egypt's decline after these epidemics.[11]

More than two decades elapsed before a second wave of scholars devoted their attention to the Middle Eastern environment, particularly toward the lands ruled by the Ottoman Empire (1322-1923). The first scholar to dedicate a monograph to documenting the role of climate in Ottoman history in a systematic fashion was the late Faruk Tabak.[12]

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[10] Michael W. Dols, "Plague in Early Islamic History," *Journal of the American Oriental Society* 94, no. 3 (1974): 371–83; Michael W. Dols, "The Second Plague Pandemic and Its Recurrences in the Middle East: 1347-1894," *Journal of the Economic and Social History of the Orient* 22, no. 2 (1979): 162–89.

[11] Stuart Borsch, *The Black Death in Egypt and England: A Comparative Study* (Austin: University of Texas Press, 2005).

[12] Faruk Tabak, *The Waning of the Mediterranean, 1550-1870: A Geohistorical Approach* (Maryland: The Johns Hopkins University Press, 2008). For an early attempt to link climate change with social upheaval in the Middle East see William J. Griswold, "Climatic Change: A Possible Factor in the Social Unrest of Seventeenth Century Anatolia," in *Humanist and Scholar: Essays in Honor of Andreas Tietze*, ed. Donald Quataert and Heath W. Lowry (Istanbul: Isis Press, 1993), 37–57. Of course, the classic work on the history of the Little Ice Age in Europe remains Emmanuel Le Roy Ladurie's *Times of Feast, Times of Famine: A History of Climate Since the Year 1000*, trans. Barbara Bray (New York: Doubleday & Co., 1971).

In his 2008 study, *The Waning of the Mediterranean, 1550-1870: A Geohistorical Approach,* he analyzed the myriad effects of the "Little Ice Age" on the Mediterranean basin broadly. The Little Ice Age (c. 1200-1800) was a period of relative cooling (by approximately one degree Celsius) that affected many regions of the world. Bringing his own archival research and newer studies on Ottoman history into the framework of Mediterranean-wide economic history, Tabak argued that colder temperatures brought about fundamental changes in patterns of human settlement, patterns of agriculture, commodity, and capital flows. Rather than seeing 'decline' as a peculiar facet of later Ottoman history, he challenged historians to consider global phenomena, such as long-term shifts in climate, as the principal cause of the rise and fall of economic zones.

Given the empire's size, geographical variation, and longevity, there remains much basic research to be done to adequately document the relationship between environmental factors on social, political, and economic trends.[13] In 2010, two important monographs on Ottoman environmental history appeared. In *The Climate of Rebellion in the Early Modern Ottoman Empire*, Sam White considers the social and political impact of Little Ice Age climate disruptions on western Anatolia. Using Ottoman archival documentation, he links massive peasant flight in the early seventeenth century to

[13] This is reflected also in the fact that John McNeill was hardly able to locate any reference on the topic in his 2010 article on the state of the field of environmental history. See J.R. McNeill, "The State of the Field of Environmental History," *Annual Review of Environment and Resources* 35, no. 1 (2010): 345–74.

unprecedented cold spells and crop failures. Environmental crises, he concludes, explain peasant and mercenary insurgencies grouped under the heading of the Celali Revolts (1596-1610).[14] In *Nature and Empire in Ottoman Egypt*,[15] Alan Mikhail produced another path-breaking study. In it, he explores Egyptian agricultural production and local management of water resources under Ottoman rule. He argues that control and management of water changed critically during the later Ottoman centuries. Although in earlier centuries peasants regulated their irrigation systems, during the eighteenth century a semi-autonomous government in Cairo with more centralized mechanisms of control imposed itself between Egyptian peasants and the Nile. It was only then that the state began to exercise absolutist control over the chief means of food production.

Since the Tabak's *Waning of the Mediterranean,* the number of monographs and articles on Ottoman environmental history continues to grow.[16] Among the more recent

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[14] Sam White, *The Climate of Rebellion in the Early Modern Ottoman Empire*, Studies in Environment and History (New York: Cambridge University Press, 2011).
[15] Alan Mikhail, *Nature and Empire in Ottoman Egypt: An Environmental History* (New York: Cambridge University Press, 2011).
[16] Selçuk Dursun, "Forest and the State: History of Forestry and Forest Administration in the Ottoman Empire" (Ph.D., Sabancı University, 2007); Alan Mikhail, "An Irrigated Empire: The View from Ottoman Fayyum," *International Journal of Middle East Studies* 42, no. 4 (2010): 569–90; Sam White, "Rethinking Disease in Ottoman History," *International Journal of Middle East Studies* 42, no. 4 (2010): 549–67; Alan Mikhail, ed., *Water on Sand: Environmental Histories of the Middle East and North Africa* (New York: Oxford University Press, 2013); Nükhet Varlık, *Plague and Empire in the Early Modern Mediterranean World* (Cambridge: Cambridge University Press, 2015); Alan Mikhail, "Ottoman Iceland: A Climate History," *Environmental History* 20, no. 2 (2015): 262–84.

publications on the Ottoman nineteenth century are studies that consider the problem of drought in Anatolia and Kurdistan. Mehmet Yavuz Erler's monograph, *Osmanlı İmparatorluğun'da Kıtlık ve Kuraklık Olayları 1800-1880* (Episodes of Drought and Food Scarcity in the Ottoman Empire, 1800-1880)[17] documents famines across the Asian provinces of the empire, with particular reference to central Anatolia (today's western Turkey). Relying on Ottoman archival documents, Erler argues that the Ottoman government responded effectively to these environmental crises and addressed the region's suffering populations during the crises of 1840s and 1870s in a sustained and responsible fashion.

In another recent study, a dissertation entitled, "Eating the Last Seed: Famine, Empire, Survival and Order in Ottoman Anatolia in the Late Nineteenth Century," Özge Ertem makes a very different assessment of government policies with respect to famine based on European and Ottoman archival sources. She, too, investigates conditions in the central and eastern Anatolian provinces during the 1873-75 and 1879-81 droughts.[18] Borrowing the thesis of Amartya Sen,[19] she insists that although there may be environmental triggers to crop failure, famine need not be the result. Rather, it results

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[17] Mehmet Yavuz Erler, *Osmanlı Devletin'de Kuraklık ve Kıtlık Olayları, 1800-1880* (İstanbul: Libra, 2010).
[18] Özge Ertem, "Eating the Last Seed: Famine, Empire, Survival and Order in Ottoman Anatolia in the Late 19th Century" (Ph.D., European University Institute, 2012), 4.
[19] For example see Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford University Press, 1983).

from economic inequality and other political factors. Accordingly, Ertem argues that although drought was a regular phenomenon that occurred "naturally" in Anatolia, famine was a man-made fact in the nineteenth-century Ottoman Empire.[20] Describing incidents of famine in the province of Ankara, Van, and Diyarbekir, she notes that while the proportion of famine deaths to the general population in Ottoman lands may have been lower than that in contemporary Ireland, China, and British India, little credit for lower mortality should be given to government policies. Rather, she argues that Ottoman officials made insufficient efforts to alleviate suffering, particularly given their concerns to direct resources toward the battlefield during the Russo-Ottoman War of 1877-78.

Interestingly, while Erler and Ertem sharply disagree about the effectiveness and response of the Ottoman state to these crises, they share a disregard for the role of global climate variation on the regions they study. Neither scholar recognized the fact that famine events in Anatolia, Kurdistan, and Iran corresponded with droughts recorded worldwide.[21] They do not mention the cycles of El Niño over the nineteenth century, which devastated agricultural zones across southern hemispheres. Indeed, Ertem dismisses the role of climatic conditions almost entirely, reasoning that "in a climate [central or eastern Anatolia] where the range between the dry and wet seasons is

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[20] Ertem, "Eating the Last Seed," 17, 266.
[21] Compare with Alan Mikhail who links global El Niño-Southern Oscillation cycles to famines in Anatolia and Iran at the end of the nineteenth century; Alan Mikhail, "The Middle East in Global Environmental History," 168.

generally sharp, one would not expect such short-term climate events to cause severe disasters with grave consequences for human life."[22]

A similar disregard for the relationship between global climate cycles and regional phenomena is found in Yaron Ayalon's 2015 monograph, *Natural Disasters in the Ottoman Empire*. His thesis is that the Ottoman Empire had almost no policies in place to handle natural disasters. His selection of examples ranges widely, as he discusses episodes of epidemic disease, famine, fires, and earthquakes occurring throughout the empire, from the thirteenth to the nineteenth century. Drawing his documentation from a seemingly random survey of Ottoman, British, and French primary source materials, Ayalon argues that Istanbul consistently failed to address catastrophic events until late in the nineteenth century. Unlike European states, which responded to humanitarian crises much earlier using superior technology and organization, he concludes that Muslim rulers were held back from helping their needy subjects and citizens by their "religious principles and the observance of confessional divisions."[23] The findings of this dissertation, however, paint a very different picture. As I will show in the fourth chapter, the Ottoman officials, both at the local and imperial level, developed short and long-term policies to intervene in environmental disasters.

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[22] Ertem, "Eating the Last Seed," 54.
[23] Yaron Ayalon, *Natural Disasters in the Ottoman Empire: Plague, Famine, and Other Misfortunes* (New York: Cambridge University Press, 2015), 209.

In this study, I assign “agency” broadly. Rather than crediting institutions or human populations alone, I include climate, natural geography and domesticated animals (as well as, occasionally wild intruders, such as locusts) as collaborators in the changing configuration of inter-societal relations and historical change. Among these multiple agents, I consider changing patterns of precipitation and temperature affecting the region as a whole as particularly significant. Indeed, one must consider climate as a type of overarching historical agent, one that is critical for understanding the interaction between and complexity of human, animal, and ecological interaction overall. Recognizing the primacy of climate disruptions is not a form of environmental determinism, but it is a way to shift historical perspectives away from what has been a largely cultural, economic or state-centered approach to the region's history.

Climate and El Niño Impact

My research makes a strong link between climate-caused events and social disruptions in Ottoman Asia, specifically the province of Diyarbekir, during the second half of the nineteenth century. It builds upon analyses of the relationship between climate and global famines developed by Mike Davis in his (2001) *Late Victorian Holocausts: El Niño Famines and the Making of the Third World.* Davis argues that although El Niño-Southern Oscillation (ENSO) fluctuations were a major cause of drought in China, India, South Africa, Egypt, Java, and Brazil, politics and economic policies played a major role

in determining the severity of its impact on local societies.[24] Traditionally, Chinese and Indian governments had institutions in place to mitigate the impact of famine. However, the new patterns of trade and agriculture undermined these mechanisms and responses.

In effect, Davis uses climate science to re-write the history of colonialism in the late nineteenth century, with particular reference to South and East Asia. El Niño Southern Oscillation or ENSO refers to periodic mild to severe oscillations in rainfall, wind and weather across the globe resulting from changes to temperatures in coastal areas of the Pacific Ocean. Global patterns of changing amplitude associated with ENSO – the "action of a great barometric see-saw over the equatorial Pacific Ocean"[25] – cause either drought (El Niño) or colder and wetter weather (La Niña). It was in the nineteenth century that scientists first "discovered" the connection between ENSO and the major droughts, which have ravaged the southern hemisphere.

On the basis of historical and scientific reconstructions, scientists have now concluded that there must be some regular or periodic way in which ENSO affects global climate. In the nineteenth century, for example, ENSO cycles occurred in 1844-46, 1876-78, 1887-89, and 1891-93 (see Table 1.1). However, there remains great deal of regional

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[24] Davis, *Late Victorian Holocausts*.
[25] Ibid., 228.

variation that has yet to be explored and explained by climate scientists and historians.[26] My historical data suggests that the pattern of ENSO-caused episodes described by Davis matches fluctuations in climate in western and eastern Anatolia. Table 1.1 suggests a close parallel between El Niño occurrences globally and disasters in Eastern Anatolia, Kurdistan, Syria, and Iraq.[27]

Table 1.1. Extreme Climatic Irregularities in the Nineteenth Century

Year	Event	Global Scale	Regional-Ottoman
1844-46	El Niño	China, Brazil	Aleppo, Baghdad, Diyarbekir, Erzurum, Mosul
1876-78★	El Niño	China, India, S. Africa, Egypt, Java, Brazil	Aleppo, Baghdad, Diyarbekir, Erzurum, Mosul, Van
1887-89	El Niño	China, Ethiopia, Sudan, Sahel	Baghdad, Cilicia, Diyarbekir, Erzurum, Mosul, Muş
1891-93	El Niño	China, India, Brazil	Bitlis, Erzurum, Muş, Palu, Van
1899-1900	El Niño	China, India, S. Africa	

Sources: Mike Davis, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World.* The data drawn for Ottoman Empire is based on the archival research of this dissertation.

★ Unlike India and China drought occurred in Kurdistan, Syria and Iraq in 1879

[26] Alan Mikhail also links global El-Niño cycles to famines in Anatolia and Iran at the end of the nineteenth century; Alan Mikhail, "The Middle East in Global Environmental History," 168.

[27] Davis, *Late Victorian Holocausts*, 235.

Recognizing the parallels between global and regional impacts of El Niño cycles provides a useful guide understanding the recurrence of drought in the province of Diyarbekir during the second half of the nineteenth-century. However, the second component of my conceptual framework takes into consideration the specificity of socioeconomic adaptations in the region under study. Diyarbekir province (the geography of which I will describe in greater detail below), as much of Kurdistan, was home to diverse populations: "tribal" societies (ranging from partly sedentary to fully nomadic pastoralists) which were composed of Kurdish- Turkic- and Arabic-speaking groups, relied on large scale raising of animals while peasant communities (Muslim, Christian, and Yezidi often living in the same villages) cultivated both dry and irrigated fields of land devoted to combination of subsistence and cash crops. In normal conditions, these different life styles coexisted: both peasants and pastoralists were interdependent on each other's products. Together, their food production fed the larger cities, such as Diyarbekir (also known as Amid) that channelled surplus and commodities, such as dyestuffs, wool, and cotton within the region and beyond. Although some nomadic populations practiced long-distance transhumance in order to graze and water their herds during winters and summers, their activities did not pose major disruptions to agriculturalists or to commerce. Indeed, their animals furnished the means for the caravan traffic throughout the region.

But ENSO episodes changed the environmental conditions of this interaction in important ways. In part, this owed to critical differences in the long term effects of ENSO on peasants and pastoralists. On the one hand, both farmers and herders were dramatically impacted by ENSO-caused droughts that caused crop failure, shortages of water, and drying of grasslands, low vegetation, and pastures. Loss of food supply, rising food prices, and overall scarcity of seed triggered the flight of peasants who often took refuge in near-by cities. Millions of livestock also died. Surviving animals were weakened and proved more vulnerable to disease as pastoralists attempted to find better pasture for them. Fertility rates plummeted. Consequently, thousands of peasants, herders, and town dwellers scavenged for food, surviving on acorns, grape skins, and grass roots while tired and emaciated sheep, cattle, horses, mules, and camels starved or succumbed to severe winter storms.

On the other hand, while both herders and farmers suffered the effects of droughts, they did not recover from these disasters at the same pace. Once conditions returned to normal, farmers could, with very basic support, such as provision of seed, resume their agricultural activities. Ottoman central and provincial authorities helped peasants, who were important taxpayers in the empire. In addition to Ottoman officials, missionaries and local relief committees appeared on the scene, providing food, seed, and even draft animals to the Chechen, Christian (Syriac, Armenian, and Nestorian), Kurdish, and Turkish peasants. But for those social groups who depended primarily on herd

animals the situation there was no support. Neither the Ottoman state nor missionaries furnished the Arab and Kurdish tribes with new breeding animals. One or two years of adequate pasture was not enough for pastoralists to recover wealth and livelihood consisting of herds of tens of thousands of sheep, goats, camels, mules, and horses.

One can approximate the historic impact of such losses on pastoralists by considering contemporary studies. Non-governmental organizations, including the Food and Agriculture Organization of the United Nations and the International Livestock Centre for Africa have studied the impact of droughts on herding groups living in Africa. Their research helps to better understand how devastating such climate events would have been for nineteenth-century pastoralist societies. For example, Camilla Toulmin who studied the impact of the 1968-73 drought on herders in Mali calculated that after having lost approximately 70 per cent of their animals, it took eight to ten years to recover small stock herds (goats and sheep). To replenish herds of larger stock, such as cattle and camels, required many more years.[28]

Of course, the length of time required for a herd to return to pre-drought levels depends on the percentage of animals that were lost during these crises. In another case study, anthropologist Terrence McCabe who dedicated five years of ethnographic research to studying the herders in Turkana (Kenya) found that it took three years to

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[28] Camilla Toulmin, "Livestock Losses and Post-Drought Rehabilitation in Sub-Saharan Africa," LPU Working Paper (Addis Ababa: International Livestock Centre for Africa, 1985).

recover losses of small stock when the losses incurred amounted to approximately 55 per cent of the original flock.[29] However, as the percentage of losses mounted, some pastoralists were not able to recover their herds at all. Many were forced into permanent settlements.[30] Others used temporary settlement –called "agro-pastoralism" --- to accumulate sufficient money to repurchase animals.[31]

These contemporary studies have significant historical implications for interpreting the impact of environmental conditions on economic and social change in nineteenth century Diyarbekir. They suggest that the Kurdish and Arabic pastoralists did not rebound from these climate-related disasters as quickly as the Christian and Muslim peasantries. They required a much longer time to recover their losses long after environmental conditions stabilized. The more frequent the extreme weather events, the greater the damage to herds that represented both accumulated wealth and quotidian

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[29] J. Terrence McCabe, "Drought and Recovery: Livestock Dynamics among the Ngisonyoka Turkana of Kenya," *Human Ecology* 15, no. 4 (1987): 387.
[30] Toulmin, "Livestock Losses and Post-Drought Rehabilitation in Sub-Saharan Africa"; Roger Blench and Zoë Marriage, "Drought and Livestock in Semi-Arid Africa and Southwest Asia," Working Paper (London: Overseas Development Institute, March 1999).
[31] Abdel Ghaffar M. Ahmed et al., *Post-Drought Recovery Strategies Among the Pastoral Households in the Horn of Africa: A Review* (Addis Ababa: Organization for Social Science Research in Eastern and Southern Africa, 2002). For the impact of various African droughts (1981-1999) on Livestock see John Morton and Cees de Haan, "Policy Options Paper: Community Based Drought Management for the Pastoral Livestock Sector in Sub-Saharan Africa," Partnership for Livestock Development and Poverty Alleviation and Sustainable Growth (Food and Agriculture Organization of the United Nations, 1999).

sources of food and income. Indeed, the short intervals between climate crises posed almost insurmountable problems for pastoralist lifestyles and livelihoods. Given the periodicity of these events over the nineteenth century, one might expect that there may have been sufficient time for pastoralists to recover their herds in the intervening decades, between the major crises of 1844-46 and 1879-80. However, during the last quarter of the century, from 1879 to 1887 and in 1891, which recorded practically back-to-back extremes of temperature and precipitation, ranging from lack of rainfall in the spring and summer months to extreme cold in the winter months, the crises of pastoralism became acute. It was this period that proved the most destructive to pastoralist economies.

In effect, this conceptual framework suggests that conflict between peasants and pastoralists was not a natural outgrowth of an inherently contradictory lifestyles of "the desert and the sown." It was principally the outcome of environmental conditions in the later nineteenth century that impacted peasants and pastoralists in critically different ways. Peasant economies recovered more rapidly from environmental crises. When extreme climate events followed each other closely, both groups struggled to survive but it was herders who, after the loss of the animals, were pushed toward desperate actions. The likelihood and intensity of violence between peasants and pastoralists increased during prolonged and severe environmental disruptions. Appreciating these conditions and the interaction between climate and local economies may have important implications for our understanding of the late nineteenth-century Ottoman Asia, and

especially in helping to explain the tragic events of the end of the empire in a region where Christian peasants and Muslim pastoralists had long coexisted.

Geographical and Environmental Features of Western Kurdistan

Before discussing the relationship between peasants, herders, and climate in western Kurdistan in the following chapters, it is necessary to briefly describe the province's administrative and economic geography and topography.[32] The western regions of Kurdistan encompassed discrete habitats. The northern parts of the province were mountainous, being a westward continuation of the great Iranian plateau. It was bounded on the south by the Taurus Mountains which enclosed river valleys, undulating plains and massive high pastures, at times broad and fertile although also, stony and narrow. From the mountainous area many springs, both small and large, emerged and fed streams and Asia's major rivers, the Euphrates and the Tigris. Unlike the northern part, the remarkable features of the middle and southern portions of the region were extensive plains and pastures lying between the Euphrates and Tigris. This undulating plateau was the final part of great Mesopotamian plain.

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[32] Information of this section mainly based on well prepared topographical Map series: The National Archives (TNA): Foreign Office (FO) 925/41093, "Eastern Turkey in Asia." Compiled at the Intelligence Division War Office By Major F. R. Maunsell, R.A from Col. H. Chermside 1889; Col. H. Stewart 1881, Captain F.R. Maunsell 1888 & 1892; Oppenheims "vom Mittelmee zum Persischne Golf" 1893 Vestiges of Assria Sheets I & II; Layard & Ainsworth's *Travels*.

The city of Diyarbekir, situated at roughly 38 degrees latitude and 40 degrees longitude, was the administrative capital of the province. However, the administrative unit of "Diyarbekir" was far from stable. From its incorporation into the Ottoman Empire in 1514, the administrative boundaries of Diyarbekir changed many times, initially encompassing much of the Ottoman east.[33] By the nineteenth century the province was bounded by the province of Erzurum, Bitlis and Van in the north; the province of Mosul in the southeast, Aleppo in the south, and Malatya in the west. (See Appendix: TABLE I. "Changing Provincial Administrative Boundaries and Units in Nineteenth-Century Diyarbekir.") The late nineteenth-century subunits or districts of the province of Diyarbekir are depicted in Map 1.2.

As for the province itself, it is useful to distinguish different ecological zones with respect to topography, elevation, and climate. Based on these features, the region can be divided into three environmental zones.

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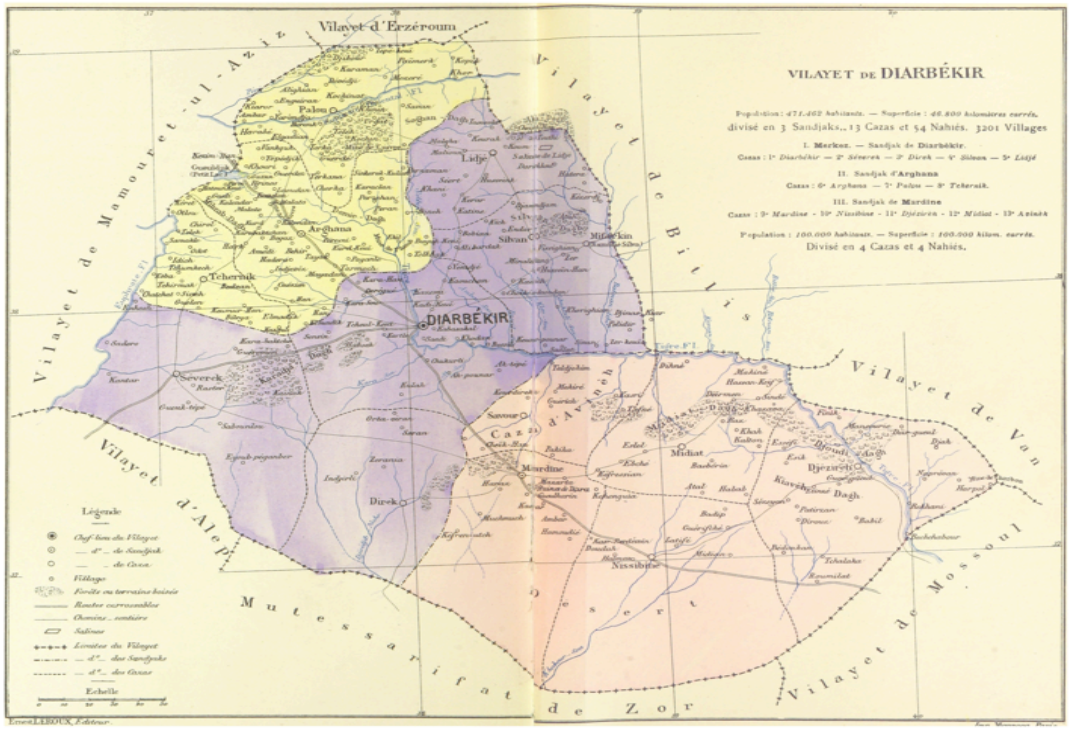
[33] For an overview of the province of Diyarbekir in the nineteenth century see Suavi Aydın and Jelle Verheij, "Confusion in the Cauldron: Some Notes on Ethno-Religious Groups, Local Powers and the Ottoman State in Diyarbekir Province, 1800–1870," in *Social Relations in Ottoman Diyarbekir, 1870-1915*, ed. Joost Jongerden and Jelle Verheij (Leiden: Brill, 2012), 15–54.



Map 1.2. The Province of Diyarbekir in the Late Nineteenth Century
Source: Vital Cuinet, *La Turquie d'Asie: Géographie administrative, statistique descriptive et raissonnée de chaque province de l'Asie-mineure*, Vol. II (Paris: Ernest Leroux, 1891), 405-519

The first zone stretched along the northern extreme of the Diyarbekir basin, encompassing it with high mountains and deep river valleys. It was, in turn, ringed by smaller cities such as Hısn–ı Mansur, Malatya, Harput, Palu, Çapakçur, Muş, and Bitlis which formed a crescent of settlement north of the capital. Small and large mountain springs fed the Murad, Tigris, and Euphrates rivers and provided irrigation for the

otherwise dry plains.[34] Abundant river water and streams made irrigated agriculture possible in this zone enabling cultivation of cotton, tobacco, and rice in addition to cereals. The plains of Malatya, Harput, Palu, and Muş were fertile lands, but according to foreign reports, were not equally cultivated.[35]

Unlike the mountainous north, the altitude of the second zone, the Diyarbekir basin proper, was relatively low, approximately 700 meters (1,900 feet) above sea level. The dormant volcano of Karaca Mountain (1,957 meters), situated to the southwest of the administrative capital, was highest peak in this zone.[36] With the exception of Karaca Mountain and hilly areas in the neighborhood of the districts of Lice, Kulp, Sason, Beşiri, and Siird, this zone consisted almost entirely of plains. In addition to the Euphrates and Tigris, the Batman, Ambar, Sinan, and Bohtan Su were the chief rivers of the middle zone.[37] Siverek, Çermik, Ergani, Lice, Silvan (Farqin), Diyarbekir, Beşiri, Redvan, Garzan, and Siird were the principal agricultural districts in this part of the province.[38]

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[34] Bertram Dickson, "Journeys in Kurdistan," *The Geographical Journal* 35, no. 4 (1910): 357.
[35] TNA: FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 W. B. Heard to W. R. O'Conor "Report on Agriculture in Kurdistan"; See also Charles Issawi, *The Economic History of Turkey, 1800-1914* (Chicago: University of Chicago Press, 1980), 218–220.
[36] Ahmet Necdet Sözer, "Güneydoğu Anadolu`nun Doğal çevre şartlarına Coğrafi Bir Bakış," *Ege Coğrafya Dergisi*, 2 (1984): 11.
[37] Sâlnâme-i Vilayet-i Diyarbekir, Defa 10, 1300/1882-83.
[38] TNA: FO 195/2283, "Agriculture in Kurdistan."

The third zone can be subdivided into two sections owing to differences in elevation and the availability of water resources. Tur Abdin, the whole of the hilly country north of great Mesopotamian plain between the Tigris in the east and the Karaca Mountain to the west comprised one half of this zone. In the southern areas, conditions were arid. Here, in Viranşehir and Nisibin, there were a few smaller streams besides the waters provided by the Çağ Çağ and Tigris Rivers.[39] However, these streams contained insufficient water to support irrigation systems, resulting in a limited amount of fertile land for cultivation.[40] Mardin and Midyat, some of the chief agricultural areas in the southeast, were thus highly dependent on rainfall. In order to offset the arid conditions, local inhabitants constructed water wells, including for irrigation and cisterns.[41] These irrigation wells enabled the cultivation of commercial agricultural crops, especially tobacco, in this zone.[42] This area of the provinces was severely affected by the drought-conditions of the late 1870s.

With these three environmental zones in mind, it becomes apparent that some regions of the province were more vulnerable to changing precipitation and weather patterns than others. In the mountainous northeast, around Malatya, Harput, Çapakçur,

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[39] Sâlnâme-i Vilayet-i Diyarbekir, Defa 10, 1300/1882-83; Abdulgani Bulduk, *Mardin Tarihi*, ed. Burhan Zengin (Ankara: T.C. Başbakanlık Güneydoğu Anadolu Projesi Bölge Kalkınma İdaresi Başkanlığı, 1999), 274.
[40] TNA: FO 195/2283, "Agriculture in Kurdistan"
[41] TNA: FO 925/41093, "Eastern Turkey in Asia: Mardin."; FO 925/41093, "Eastern Turkey in Asia: Bohtan – Jezire."
[42] Bulduk, *Mardin Tarihi*, 279.

Kulp, and Lice, winters tended to be extremely cold, with frequent below-freezing temperatures and heavy snowfalls blanketing the region's valleys and mountain slopes. Winter snow fostered the growth of highly nutritious grasses that sustained thousands of small stocks in the summer.[43] By contrast, the middle plateau surrounding the city of Diyarbekir saw hot summers and cold winters, albeit with less precipitation.[44] Further south, the climate resembled desert conditions: summers were hot with temperatures rising at times above forty degrees Celsius in July and August.[45]

Owing to differences in elevation and precipitation, land usage, and habitation of these zones varied. The basin of Diyarbekir was the most densely cultivated zone in the province thanks to fertile soil and rich water resources that made irrigation possible. In comparison to the middle zone, the plain of Malatya and Harput, drained by various branches of the Euphrates River, were cultivated slightly. The southern part of the province also featured vineyards and lands for pasturage.[46] Transhumance was a natural adaptation to these varied conditions. Good grazing grounds were found in the pastures laid between mountains in north-east of Diyarbekir Province. The slopes of the Karaca

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[43] F. R. Maunsell, "Kurdistan," *The Geographical Journal* 3, no. 2 (1894): 81.
[44] John C. Dewdney, *Turkey: An Introductory Geography* (New York: Praeger, 1971), 205.
[45] Sırrı Erinç, "Climatic Types and the Variation of Moisture Regions in Turkey," *Geographical Review* 40, no. 2 (1950): 224–35.
[46] TNA: War Office (WO) 106/5964, Confidential, "*Military Report on Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by Captain F. R. Maunsell, vol. I (London: Harrison and Sons, 1893), 401.

Mountain provided an important grazing area in the middle of the region. Adequate grass was found throughout the plain country of northern Mesopotamia.[47] Other wild vegetation was important: in the mountain and forests oak trees were common, typically low and stunted and sometimes in the form of short bushes.[48] They furnished dyestuffs as well as kindling. In addition to oak, the poplar tree was widespread. Poplar was used for building purposes, growing in the lands with high moisture, especially in the areas surrounding villages.

Overland Routes Connecting the Ottoman Asia

Although smaller in size than Aleppo and Baghdad, throughout the nineteenth century, the city of Diyarbekir, with a population of roughly 30,000 in 1864,[49] remained one of the most important transit centers in Ottoman Asia.[50] The city of Diyarbekir was not only the administrative capital of the province. Located in the region of Upper Mesopotamia, it served as one of the linchpins of the Ottoman distribution networks in the east, providing

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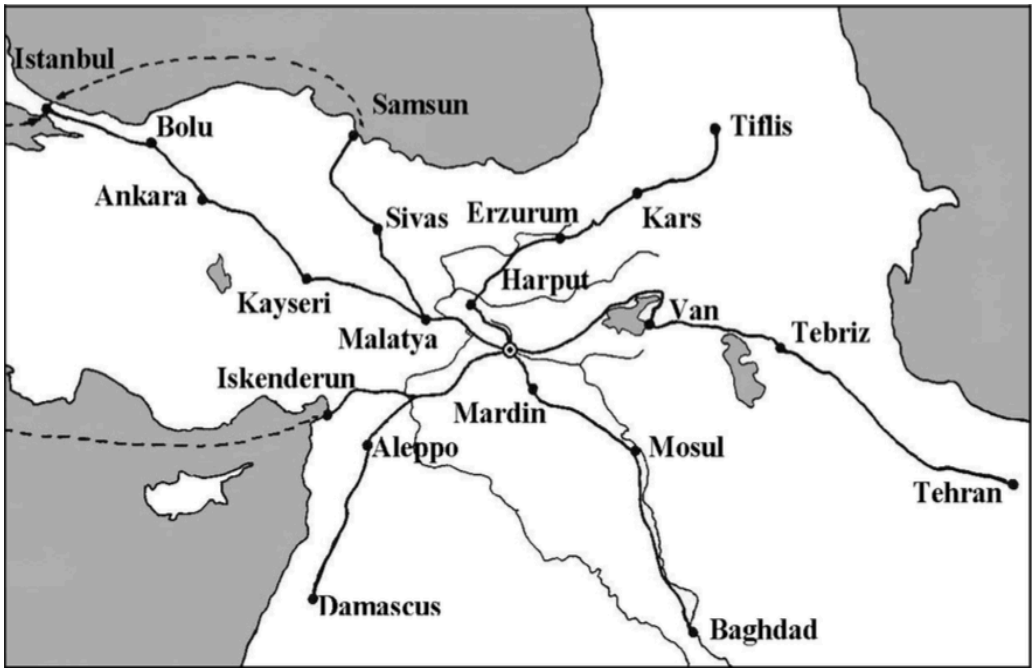
[47] For varieties of grasses in contemporary Turkey see Vecdet Erkun and W.M. Nixon, *Türkiye'de Çayır - Mer'a ve Yem Nebatları* (Ankara: Güzel İstanbul Matbaası, 1955), 11–13.
[48] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası* (İstanbul: Mihran Matbaası, 1303), 46–47.
[49] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the trade of Diarbekr and Kurdistan for the Year 1863." dated, Diyarbekir, March 31, 1864
[50] Faruk Tabak, "Local Merchants in Peripheral Areas of the Empire: The Fertile Crescent during the Long Nineteenth Century," *Review* 11, no. 2 (1988): 179–214.

food, manpower, pack animals, and copper for imperial armies. The city and province also rested at the intersection of major trade routes linking the Black Sea with the Persian Gulf, and Iran and Iraq with Syria and Anatolia. As a transit station, most Indian goods (particularly cottons) traversed the provincial capital en route between Constantinople and Baghdad. Moreover, the city attracted labourers and immigrants from various regions throughout the Ottoman Empire. Arab, Turcoman, Nestorian, and Kurdish tribes travelling between their northern pastures and southern plains traversed the region. Thus, both the province and the city served as a crossroads of population, raw materials and commodity flows.[51]

[51] Mafalda Ade, "Diyarbekir in the Late Ottoman Period from the Perspective of Foreign Merchants in Aleppo," in *Osmanlı`dan Cumhuriyet`e Diyarbakır*, ed. Bahaeddin Yediyıldız and Kerstin Tomenendal, vol. I (Ankara: Türk Kültürü`nü Araştırma Enstitüsü, 2008), 214.



Map 1.3. Intra-Asian Trade Routes through Diyarbekir in the Nineteenth Century
Source: Adapted from İbrahim Yılmazçelik, *XIX. Yüzyılın İlk Yarısında Diyarbakır, 1790-1840: Fizikî, İdarî ve Sosyo-Ekonomik Yapı,* appendix I/A (Ankara: Türk Tarih Kurumu Basımevi, 1995).

Map 1.3 illustrates the geographical centrality of Diyarbekir within the empire's Asian transportation networks. Historically, the Ottoman state channeled trade through administrative cities like Diyarbekir for the sake of security and in order to capture revenues from customs duties. In earlier centuries, Suraiya Faroqhi notes that caravans entering the Ottoman domains from Iran through Van, a mid-sized town on the Ottoman-Iranian border, were required to go directly to the customs station in Diyarbekir before

opening their cargo.[52] Along with Erzurum, Diyarbekir was one of the most important entrepots near the border with Iran,[53] with caravans arriving from Tabriz via Bitlis; from Diyarbekir, such traffic turned south via Birecik toward northern Syria.[54] Merchants who came from Damascus and Aleppo passed through Diyarbekir on the way to the Black Sea or by way of long-distance caravans from Istanbul to Baghdad.[55] After stopping at Aleppo, goods were transshipped to the port of Alexandretta to the European markets.[56] In both directions, caravans tended to follow the river banks of the Euphrates River given the availability of water and because of the relative security of this route. In addition to merchant caravans, in the late nineteenth century about half a million seasonal workers from Diyarbekir, Harput, Urfa, and even Mosul annually walked along this path (270 miles or 435 km.) to reach the plain of Cilicia to work in the cotton fields.[57]

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[52] Suraiya Faroqhi, *Towns and Townsmen of Ottoman Anatolia: Trade, Crafts, and Food Production in an Urban Setting, 1520-1650* (New York: Cambridge University Press, 1984), 52.
[53] Suraiya Faroqhi, "Crisis and Change, 1590-1699," in *An Economic and Social History of the Ottoman Empire*, ed. Halil İnalcık and Donald Quataert, vol. II (Cambridge: Cambridge University Press, 1997), 485.
[54] Evliya Çelebi, a famous seventeenth-century Ottoman traveller, also characterized Diyarbekir as one of the major commercial stations on the route to and from Aleppo.
[55] İbrahim Yılmazçelik, *XIX. Yüzyılın ilk Yarısında Diyarbakır, 1790-1840: Fizikî, İdarî ve Sosyo-Ekonomik Yapı* (Ankara: Türk Tarih Kurumu Basımevi, 1995), 45.
[56] Donald Quataert, "The Age of Reforms, 1812-1914," in *An Economic and Social History of the Ottoman Empire*, ed. Halil İnalcık and Donald Quataert, vol. II (Cambridge: Cambridge University Press, 1997), 818.
[57] TNA: FO 424/132, no. 103, encl. 4, Diyarbekir, April 30, 1882 "Memorandum on the Kurds," by Herbert Chermside; TNA: WO 106/6246, Confidential, "*Military Report on*

Despite the great economic importance of the trade through the Diyarbekir region, insufficiently paved roadways prevented the use of wheeled transport in this part of the empire. Caravan traffic depended on pack animals. Pack animals were bred in large numbers all along the long-distance caravan routes leading to and from Cezire, through Diyarbekir, Urfa, and Aleppo, to Alexandretta on the Mediterranean coastline. While mules and horses dominated transport in the eastern and mountainous parts of Ottoman Kurdistan, camels served as the principal pack animal from Diyarbekir westward and to the south. Despite religious qualms, mules, the sterile offspring of a female horse and male donkey, were bred in abundance, particularly in Diyarbekir, Mardin, Cezire, Harput, and Malatya.[58]

During the Tanzimat (1829-1878), a period of administrative and political reforms, the Ottoman state attempted to improve inter-regional communications between Constantinople, the Black Sea, central Anatolia, Kurdistan, and Iraq. In the late nineteenth century, Istanbul planned improvements that would have facilitated communications between the city of Diyarbekir, resource-rich rural areas such as the copper mines of Ergani, and other commercial cities in Asia. The area between Cezire and Mosul as well as between Siverek and Diyarbekir were surveyed. In 1866, for example, imperial bureaucrats intended to build a paved, carriageable road to connect the

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North-Eastern Turkey in Asia," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. II (London: Harrison and Sons, 1892), 215-17.

[58] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 42.

three towns of Diyarbekir, Harput, and Sivas. The work was anticipated to take three years' time. Labour for construction was to be furnished by villagers on the basis of corvée while a special tax was levied to raise money for materials.[59] Unfortunately, the project did not go well given the lack of adequate foundations and preparations. Rain washed out the pavement leaving men and animals to sink in a "deep slough."[60]

Despite setbacks, some infrastructural projects appear to have improved intra-regional communications. According to the government yearbook for the Province of Diyarbekir, 180 kilometres of carriage road, 30 kilometres of urban ways, and 190 bridges were either improved or built during under the governorship of Hatunoğlu Kurt İsmail Hakkı Paşa (1868-76).[61] The fact that in eight years only 180 kilometres of carriageable road was built or improved in this large province suggests not only the difficulty of local conditions but also the limited capacity of the Tanzimat state to improve communication within the more distant areas of the empire.

It would be many decades before the province of Diyarbekir enjoyed a well-constructed inter-regional carriageable road. The road, which began in Samsun, an

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[59] TNA: FO 195/889, no. 10, encl. 1, Diyarbekir, April 18, 1867 Taylor to Lyous "Report on the Trade and Condition of the Vilaiet of Erzeroom and Eyalets of Kharput and Diarbekr, composing the Consular District of Koordistan, for the Year 1866."
[60] TNA: FO 195/889, no. 10, encl. 1, Diyarbekir, April 18, 1867 Taylor to Lyous "Report on the Trade and Condition of the Vilaiet of Erzeroom and Eyalets of Kharput and Diarbekr, composing the Consular District of Koordistan, for the Year 1866."
[61] *Sâlnâme-i Vilayet-i Diyarbekir*, Defa 11, 1311/1883-84. He implemented *Tanzimat* reforms into the region. For more details on İsmail Hakkı Paşa's administration see Suavi Aydın and Jelle Verheij, "Confusion in the Cauldron," 43–45.

important port city on the Black Sea and led through Sivas, Harput, Ergani Maden, and Diyarbekir was planned in the 1830s for military purposes. After a half-century of effort, it was finally completed and opened to traffic in the mid-1880s. Once it was completed, it even met the exacting standards of the British. According to British War Office records, it was quite well constructed and permitted wheeled traffic to travel easily.[62] From Diyarbekir, the Black Sea road continued via Cezire to Mosul and Baghdad. Thus, by the last decades of the nineteenth century, there existed a major north-south artery, which traversed parts of Kurdistan, connecting northern Anatolia with central Iraq.[63] In an effort to further develop inter-regional communication, the state planned a second carriageable road that would have connected Sivas, Malatya, and Harput, with Diyarbekir.[64] Despite the important inter-urban trade in hides linking cities like Diyarbekir and Kayseri, commercial transport between Diyarbekir and central Anatolia remained almost entirely

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[62] TNA: WO 106/6245, Confidential, "*Military Report on North-Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. I (London: Harrison and Sons, 1892), 137, 197-202.
[63] "Armenia and Kurdistan," Handbooks Prepared Under the Direction of the Historical Section of the Foreign Office (London: H.M. Stationary Office, 1920), 32.
[64] TNA: WO 106/6245, Confidential, "*Military Report on North-Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. I (London: Harrison and Sons, 1892), 137, 197-202.

dependent on caravans.[65] It took about ten days for a traveller from Diyarbekir to reach Sivas.[66]

In addition to paved roads, the Ottoman government envisioned a railway system that would have linked western Kurdistan to both Anatolia and Iraq. The first leg of these tracks aimed to connect Diyarbekir with Samsun on the Black Sea. The second proposed railway would have linked Aleppo via Diyarbekir to Mosul and Baghdad.[67] Such projects were spurred by the opening of the Suez Canal, which diverted traditional overland traffic and goods between the Indian Ocean and the Mediterranean, from the Tigris-Euphrates region toward the Red Sea. Despite such plans on paper, the region remained dependent on animal power, particularly on the pack animals that made up the caravans.

Waterways of Western Kurdistan

Historically, rivers provided an important but limited means for transporting bulk goods, animals, and people in Kurdistan. In Ottoman Kurdistan the rivers generally ran in deep valleys with steep, rocky banks rendering access difficult. Both the Tigris and Euphrates flowed in one direction, restricting cargo transport to a downstream direction only until

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[65] Horatio Southgate, *Narrative of a Tour Through Armenia, Kurdistan, Persia, and Mesopotamia*, vol. II (London: Tilt and Bogue, 1840), 292.
[66] Ibid., II:293.
[67] TNA: WO 106/6245, Confidential, "*Military Report on North-Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. I (London: Harrison and Sons, 1892), 134.

1831 when steamships were introduced.[68] Shipping by river was also restricted seasonally. From Diyarbekir to the confluence of the Bohtan Su and Tigris rivers, the water was too low for raft transport during the months of July, August, September, and October. However, below that point there was always sufficient volume in the river to support both rafts and steamships.[69] During the wet season, specifically the months of March, April, and May, the journey from Diyarbekir to Mosul took from four to eight days, whereas for the rest of the year it took ten to sixteen days. Between three weeks and a full month were required to ship goods by the Tigris between Diyarbekir and Baghdad.[70] North of Diyarbekir, the Tigris was only used for the conveyance of fuel from the forests of the Eğil region.[71]

The primary means of water transportation between Diyarbekir, Cezire, and Mosul were rafts (*kelek*). The *kelek*s were a type of platform of wood, typically constructed of poplar timber, which was kept afloat by being lashed to inflated

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[68] See also Mahmoud Haddad, "Iraq Before World War I: A Case of Anti-European Arab Ottomanism," in *The Origins of Arab Nationalism*, ed. Rashid Khalidi et al. (New York: Columbia University Press, 1991), 120–50.
[69] TNA: FO 195/2283, no. 5, encl. 1, Diyarbekir, March 25, 1908 Heard to Barclay "Waterways of Kurdistan."
[70] TNA: FO 195/2283, no. 5, encl. 1, Diyarbekir, March 25, 1908 Heard to Barclay "Waterways of Kurdistan."
[71] TNA: FO 195/2283, no. 5, encl. 1, Diyarbekir, March 25, 1908 Heard to Barclay "Waterways of Kurdistan."

sheepskins.[72] The size of *kelek*s varied from as few as ten inflated sheepskins up to 400 skins, depending on their intended purpose, although most rafts consisted of fifty to eighty inflated skins. Although the rafts were poled downstream by limited number navigators, hundreds of people could be employed in river raft sector. The wood of the raft would be sold at the destination point while the boatswain deflated the skins and carried them upstream by mule.[73]

Rafts could carry a considerable number of animals and a very large cargo of bulky goods.[74] A *kelek* of 150 skins could carry a load of approximately eighty tons.[75] Medium *kelek*s, consisting of around eighty skins, were used on the route from Diyarbekir to Cezire; a few descended as far as Mosul. The large *kelek*s were generally used by traders to ship bulk goods, some going as far as Baghdad.[76] Rafts carried many kinds of Diyarbekir products including wool, copper, goat skins, leather, gallnuts, gum-

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[72] TNA: WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. II (London: Harrison and Sons, 1892), 54.
[73] TNA: WO 106/6245, Confidential, "*Military Report on North-Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. I (London: Harrison and Sons, 1892), 144. The same information in Justin Marozzi, *Baghdad: City of Peace, City of Blood* (Penguin, 2014). I would like to thanks Prof. Fikret Adanir for this reference.
[74] *Sâlnâme-i Vilayet-i Diyarbekir*, Defa 12, 1302/1884-1885.
[75] TNA: WO 106/6246, Confidential, *Military Report on North-Eastern Turkey in Asia*, Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. II (London: Harrison and Sons, 1892), 54.
[76] TNA: WO 106/6245, Confidential, "*Military Report on North-Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. I (London: Harrison and Sons, 1892), 144; Maunsell, "Kurdistan," 88.

tragacanth, dried fruit, soap, pulse, black silk, *pushi* (hand made kerchiefs), woolen jackets, and silk goods.[77] The region, known as the "breadbasket" of Kurdistan, also supplied grain by raft to Mosul and Baghdad.[78] During periods of famine in Iraq a large quantity of grain could be exported by raft.

The Tigris River only supported downstream raft traffic, albeit throughout the year. Although the new steamship lines enabled river travel in both directions, water volume only permitted their use from March to June when spring runoff from the mountains of Kurdistan engorged the river. In those months the steamers from Mosul ascended as far as Cezire.[79] By the last quarter of the nineteenth century the number of steamers increased, with three English and five Ottoman steamers regularly plying the Tigris. The English steamship line, the Euphrates and Tigris Steam Navigation Company, was operated by the Lynch Brothers.[80] According to an agreement with the Ottoman government, only two of this company's steamers were permitted to operate at any given

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[77] TNA: FO 195/2283, no. 5, encl. 1, Diyarbekir, March 25, 1908 Heard to Barclay "Waterways of Kurdistan."
[78] TNA: FO 195/2283, no. 5, encl. 1, Diyarbekir, March 25, 1908 Heard to Barclay "Waterways of Kurdistan."
[79] TNA: WO 106/6245, Confidential, "*Military Report on North-Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. I (London: Harrison and Sons, 1892), 144.
[80] J. Forbes Munro, *Maritime Enterprise and Empire: Sir William Mackinnon and His Business Network, 1823-93* (Suffolk: Boydell Press, 2003), 62.

time. This ensured market share for the Ottoman steamers that in comparison with the more advanced technology vessels of the Lynch Company, traveled more slowly.[81]

The Euphrates, particularly in its upper branches in the north of the province, was less adapted for rafts owing to the prevalence of rapids. Between Kemah and Keban Maden, it was used for floating the timber used in mining operations. Despite considerable difficulties, local inhabitants used *kelek*s as a means of travel on the Euphrates below Eğin and to descend below the junction of two of its branches, the Murad and Karasu rivers. Again, this traffic was restricted due the rapidity of the current. Only in and around Birecik, a strategically important town located southwest of Diyarbekir, could larger vessels operate.[82]

The Tigris and Euphrates Rivers, which served as a gateway to the Indian Ocean, were viewed strategically by both the Ottoman and British empires. In fact, the Ottoman government attempted to improve river transportation in advance of the opening of the Suez Canal in 1869 as a means of linking the Mediterranean with India. The British were interested in these rivers not only because they brought Indian goods to the greater Middle East, but also because they would have enabled the exploitation of resources

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[81] TNA: WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. II (London: Harrison and Sons, 1892), 50-52.
[82] TNA: WO 106/6245, Confidential, "*Military Report on North-Eastern Turkey in Asia*," Compiled in the Intelligence Division of the War Office by C. E. Callwell, vol. I (London: Harrison and Sons, 1892), 144.

within the region itself. The potential for mining of valuable ores in Western Kurdistan captured British attention. A report on the waterways of Kurdistan dated March 25, 1908, estimated that the great mountain ranges of Kurdistan contained "much mineral wealth" but required "a practical water-way traversing mountainous regions" to exploit them efficiently.[83]

Despite new paved roads and steamships on the rivers throughout the nineteenth century, caravan traffic by pack animal remained the most important form of transport of goods and people within Anatolia and between Kurdistan, the Mediterranean, the Black Sea, and the Gulf.[84] As such, the livestock maintained by the Kurdish and Arab tribes remained critical for military and commercial usage. Local horses were highly sought after by the British.[85] There was a continuous high demand for horses from the region for military and civillian use in British India. This demand was due to the high casualty rates of horses overall, both en route and in India, owing to high temperature, humidity, and cost of fodder.[86] Until replaced by motorized vehicles, the trade in horses remained one

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[83] TNA: FO 195/2283, no. 5, encl. 1, Diyarbekir, March 25, 1908 Heard to Barclay "Waterways of Kurdistan."
[84] Ely Banister Soane, *To Mesopotamia and Kurdistan in Disguise* (London: John Murray, 1912), 27; Issawi, *The Economic History of Turkey, 1800-1914*, 34–35; Tabak, "The Fertile Crescent"; Donald Quataert, "The Age of Reforms, 1812-1914," 782.
[85] For more information on the importance of Middle Eastern horses for British Empire see Donna Landry, *Noble Brutes: How Eastern Horses Transformed English Culture* (Baltimore: Johns Hopkins University Press, 2008).
[86] Hala Mundhir Fattah, *The Politics of Regional Trade in Iraq, Arabia, and the Gulf, 1745-1900* (SUNY Press, 1997), 160.

of the most valuable and strategic links between Ottoman Kurdistan and Iraq and the British Raj.[87]

Sources

This dissertation is primarily the result of research conducted in British and Ottoman archives, incorporating these findings with published primary sources, travel accounts, and many secondary sources bearing on topics ranging from geography to climate change, drought conditions, animal physiology and anatomy, and agriculture in an effort to reconstruct environmental conditions, the economy, and geography of nineteenth century Ottoman Kurdistan.

In England, in addition to the imperial archives at the National Archives at Kew, I consulted the British Library India Office Records, the archive of the Royal Geographical Society in London, and collections held at St. Antony's College, Oxford. The British consuls submitting the reports came to the region in 1835 when the Ottomans and Persians attempted to establish a border.[88] The region was significant to the British as a gateway to the Indian Ocean. In order to maintain surveillance over the trade between the

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[87] For horse trade see Ibid., 159–177.
[88] For more on this Sabri Ateş, *The Ottoman-Iranian Borderlands: Making a Boundary, 1843-1914* (Cambridge: Cambridge University Press, 2013).

Indian Ocean and Mediterranean Sea, British presence was essential. Some report writers were official appointees, while others were local merchants and traders that became imperial agents. By the late nineteenth century a new type of British official appeared, namely military consuls and lieutenants. This was especially true after the Berlin Conference in 1878, when British officials were appointed to watch over Ottoman reforms with regard to Armenian and other ethno-religious communities of the Empire in the east.[89] Among this number were some high-ranking British military officials, including generals. The presence of such men implies the existence of a third British interest or intention in respect to this region; the discovery of oil in Iraq had made gathering of intelligence concerning all aspects of the geography, environment, climate, and human and animal populations a vital aspect of policy, geared to prepare the ground for future British domination.

While the consular reports of British officials from across the Ottoman East – not only from Diyarbekir itself but also Aleppo, Baghdad, Cilicia, Erzurum, Mosul, Urfa, and Van – have been employed by other researchers, few have used them for the environmental and climate information. A wide geographical perspective was necessary not only to ascertain climate-related information. Many of the populations studied were nomadic; such high mobility in the region meant that there were tribes residing as far

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[89] For British military consuls Uygur Kocabaşoğlu, *Majestelerinin Konsolosları: İngiliz Belgeleriyle Osmanlı İmparatorluğu'ndaki İngiliz Konsoloslukları, (1580-1900)* (İstanbul: İletişim Yayınları, 2004).

south as upper Mesopotamia during the winter that would move yearly as far north as the Persian frontier in the summer season. Drawing on a wide range of consular reports thus allowed me to gain a more complete understanding of the economic and social circumstances of the region.

British War Office records, located at the National Archives, contain much useful information but have not been consulted by Ottoman historians to date.[90] Using these materials demands a critical lens, not least because many of the authors of the reports were convinced of British civilizational superiority and thus exhibited considerable biases when it came interpreting the phenomena they observed, including Ottoman policies, institutions, and local societies. Such an Orientalist mindset that coloured commentary is particularly pronounced in descriptions of local tribes and pastoralists who were considered "savage nomads." Nevertheless, I found these reports exceptionally valuable and detailed with respect to estimates of animal populations, agricultural crops, and regional demography—including the ethno-religious and ethno-linguistic make up of settlements. Observers paid close attention to weather conditions, terrain, and geography precisely because these features fell under the heading of security, reconnaissance and military concerns.

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[90] Fuat Dündar is one of the Ottoman historian used the War Office Records in his studies; Fuat Dündar, *Crime of Numbers: The Role of Statistics in the Armenian Question (1878-1918)* (New Brunswick, N.J: Transaction Publishers, 2010).

The Ottoman sources, primarily collections found in the Prime Minister's Archive in Istanbul, helped to balance the British record. I consulted different collections for the nineteenth century, including Imperial Orders, population statistics, and interior ministry documents. A complete list of archival sources consulted is found in the bibliography.

Chapter Outline

The dissertation is comprised of the introduction, three substantive chapters and the conclusion.

Chapter two addresses the region's agricultural underpinnings and the impact of ENSO on villagers and peasant economies. Drought is the leitmotif of the chapter. After describing cultivation patterns and crops, I investigate the impact of drought on the region, particularly during the 1840s and 1880s. The chapter points to the high degree of displacement of peasants, as they abandoned villages in the 1840s in the face of crop failures and famine and over-taxation. The 1860s were in some ways a time of recovery, despite frequent locust infestations. The planting of cash crops like cotton expanded throughout the province. The chapter concludes with the ENSO period beginning with the 1879 drought and ends with third drought of 1891-93. In some regions nothing at all was harvested, resulting in mass starvation among peasants across the Ottoman East.

Abandoned villages were in this case the outcome of death. Additionally, many peasants became nomads as they left villages to search for food and to escape state taxation.

Chapter three considers the impact of environmental disasters on pastoral nomads and their herds. The chapter begins with a discussion of the physiology and anatomy of livestock in the region. It considers the vulnerability of young animals to severe weather conditions and how herds generally were affected in terms of mortality, fertility, and the production of milk and wool. This chapter pays special attention to the period of 1879-80. Perhaps the greatest losses to herds were incurred during the winter as extreme cold led to massive animal deaths and vulnerability to disease. The final sections of the chapter consider the prospects for recovery given the high rates of herd losses. Animal theft, which became widespread, served as means for rebuilding flocks and herds as well as means of survival, but also led to conflict with peasant societies.

The fourth chapter considers the role of the state in this picture of environmental crisis facing agriculturalists and pastoralists. During the late nineteenth century the Ottoman state had begun a set of reforms which were meant to both increase its direct power over the provinces and to improve conditions for its citizens. In Diyarbekir province these reforms confronted unprecedented challenges in the form of extreme weather conditions, famine, and rising inter-ethnic conflict. Concerted efforts were made to stop profiteering in times of food scarcity. This chapter also evaluates Ottoman policies toward environmental crises comparatively. Did Ottoman elites exploit drought

and famine among peasants and pastoralists in the way the British Empire did? In India, according to Mike Davis, British administrators saw climatic disasters as "green light for an imperialist land rush."[91] It concludes that Ottoman policies lack such coherence; indeed, Ottoman administrators in the region often gave with one hand (seed, tax forgiveness, prevention of hoarding and profiteering) and took with the other (requisitioning animals and grain for the army). As peasant economies recovered, Istanbul found a new way to exploit the distress in the region by employing pastoralists who had lost their herds in the provincial militias that formed the Hamidiye Corps.

In conclusion, the findings of this research demonstrate that ENSO cycles that affected the region most severely in the 1840s and the 1880s impacted peasants and pastoralists very differently with profound consequences for the region and the empire. In addition to helping us better understand the long, slow violence and environmental conditions behind the genocide of the First World War, I point to how this long-term study on Diyarbekir's environmental and climate history might help us reframe the discussion of relationships commonly described with the phrase "the desert and the sown." The disparity between recovery timetables after periods of crisis often put agriculturalists as an economic advantage over groups who were largely dependent on their flocks and herds. It was precisely this disparity and desperation, compounded by

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[91] Davis, *Late Victorian Holocausts*, 12; See also Steven Serels, *Starvation and the State: Famine, Slavery, and Power in Sudan, 1883-1956* (New York: Palgrave Macmillan, 2013).

ethnic and religious cleavages, that led to local conflicts or even, when coordinated by elites and central state officials, mass murder.

Chapter 2

"Harvest became a Word without Substance": Cycles of Drought and Peasant Survival Strategies

In June 2014, Turkish newspapers reported that peasants in the south-eastern regions of the country were leaving their farms because of a devastating drought.[1] It was the first time in twenty years that the fountain of Akuşağı in the village of Baskil ran dry. The roots of fruit trees – walnut, pear, and apricot – were parched. Many farmers sought to sell their orchards and fields while others migrated to neighbouring districts to work in the mines. A century earlier, in October 1803, Mehmed Pasha, the governor of Diyarbekir, sent a dispatch to Baghdad warning about the autumn's exceptionally poor harvest. In a poetic lament that expressed popular desperation in the face of food scarcity, he described the year's "crops and harvests" as "words without substance."[2] As he wrote to request help for the population, many starving inhabitants of the surrounding area had begun to abandon their fields, taking refuge in the provincial capital in search of aid.[3]

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[1] http://www.hurriyet.com.tr/gundem/26673411.asp; http://www.kanal23.com/h-25830-b-Baskili-don-vurdu.html Accessed January 12, 2015.

[2] BOA, HAT. 127/5268 (18 October 1803). Its original is as follows: Gılâl ve zehair dedikleri ism-i bi müsemma gibidir vücüdu na'yap / Bozuldu karıyesi çifti hem oldu hanesi viran /Döküldü şehre cu' ve sail etti nice hempayi. [Grains and produce became a name without substance /The village and fields fell apart and the houses are in ruin/The dispossessed poured into the city and many became beggars.]

[3] Yılmazçelik, *XIX. Yüzyılın Ilk Yarısında Diyarbakır*, 111.

Although the drought experienced in 2014 is likely the result of anthropogenic environmental change as opposed to the experience of farmers in the first decades of the nineteenth century (which may have represented fairly regular cycles of wet and dry years in this semi-arid region), farmers responded in similar fashion. Over the nineteenth century, the region – not only Diyarbekir, but regions from Ankara eastward to the Iranian border, witnessed some of the most protracted periods of drought on record. People and domesticated animals starved to death.[4] Peasants sold their draft animals, ate their seed corn, and finally, foraged for edible roots and grasses; many took the only course open to them: they fled toward better provided cities and other regions beyond the drought belt. By focusing on environmental crises that coincided with the El-Niño cycles (1840-1890) this chapter aims to investigate their impact on agriculture in Ottoman Kurdistan. I argue that in light of crop failure, facing the lack of seed for replanting and ploughing animals, as well as new taxes, peasants responded by abandoning their fields and villages toward cities or other agricultural zones. For peasants, flight was one of the "weapons of the weak."[5]

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[4] For environmental crises in the mid- eighteenth century in the region, see Ariel Salzmann, *Tocqueville in the Ottoman Empire: Rival Paths to Modern State* (Leiden: Brill, 2004), 131–38; Mesut Aydıner, "XVIII. Yüzyılın Ikinci Yarısında Diyarbakır`da Büyük Kıtlık," in *Osmanlı'dan Cumhuriyet'e Diyarbakır*, ed. Bahaeddin Yediyıldız and Kerstin Tomenendal, vol. I (Ankara: Türk Kültürü`nü Araştırma Enstitüsü, 2008), 275–86.

[5] See James C. Scott, *Weapons of the Weak: Everyday Forms of Peasant Resistance* (New Haven: Yale University Press, 1985).

This chapter focuses on two cycles of extreme weather events corresponding to the ENSO cycles of the 1840s and the period between 1870 and 1890s. Before documenting the ENSO cycles' regional impact, the chapter presents an overview of agriculture, land usage, and production in region during the nineteenth century. To understand the occurrence and the effects of abnormal climatic events on different crops it is also necessary to know conditions required for their growth and the phenological phases of the chief crops with respect to water and temperature requires. After this introduction, the chapter addressed the impact of the extreme weather conditions of the 1840s, which occurred in the context of rebellions in the eastern front. The second half of the chapter considers the socioeconomic and political circumstances of the 1850s-1870s, which despite regional and international wars, was marked by agricultural recovery and the expansion of commercial agriculture. The last part of this chapter discusses the appearance of new climatic disasters in the two decades of the century, arguing that the protracted nature of these episodes of drought, locust infestations, and extreme winter and spring cold set into motion trends which exacerbated local conflicts between local powerbrokers and peasants and radically transformed settlement patterns within the province.

The Granary of Kurdistan

In the nineteenth century, the province of Diyarbekir was regarded as one of the empire's main sources of grains in Asia.[6] The agricultural potential of the region drew the attention of the British as well. In a document dated February 26, 1908, British consul W. B. Heard identified the province of Diyarbekir as the "granary of Kurdistan" as he mapped the agricultural zones of the region (Map 2.1).[7] Charles Issawi places the region among the top producers of wheat in the late nineteenth century, including Harput (within the province of Diyarbekir itself), Malatya, Urfa, Sivas, Ankara, and Konya.[8]

Given the redrawing of its administrative boundaries over the nineteenth century, the volume of arable land within the province of Diyarbekir was not constant. Generally speaking, at any one point about one third of the land in the province was put under cultivation in the century before the First World War.[9] As shown in Map 2.1, the middle zone, with its lack of mountains, low elevation, and rich water resources—specifically

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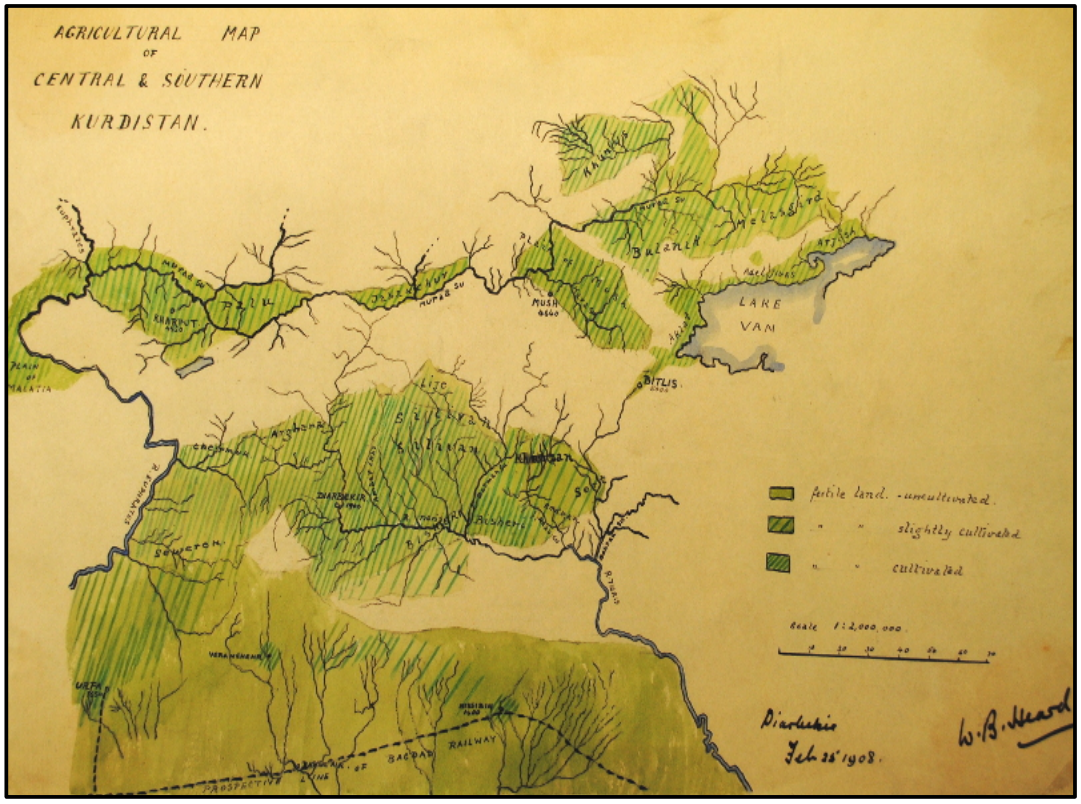
[6] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası* (İstanbul: Mihran Matbaası, 1303).
[7] TNA: FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 W. B. Heard to W. R. O'Conor "Report on Agriculture in Kurdistan."
[8] Issawi, *The Economic History of Turkey, 1800-1914*, 213.
[9] Vital Cuinet, *La Turquie d'Asie: géographie administrative, statistique* (E. Leroux, 1894), 341; Tevfik Güran, *Osmanlı dönemi tarım istatistikleri, 1909, 1913 ve 1914*, vol. III (Ankara: T.C. Başbakanlık Devlet İstatistik Enstitüsü, 1997), 27..

from Siverek on the right bank of the Euphrates to Beşiri and Garzan on the branches of the Tigris—registered the highest percentage of cultivation.[10]



Map 2.1. Agricultural Map of Central and Southern Kurdistan (1908)
Source: TNA: FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 W. B. Heard to W. R. O'Conor "Report on Agriculture in Kurdistan."

The region benefitted from the Euphrates and Tigris River systems that afforded certain areas the potential of irrigation.[11] In addition to irrigation canals, natives of

[10] *Sâlnâme-i Vilayet-i Diyarbekir*, Defa 20, 1323/1905.

Kurdistan used wells to irrigate fields in areas where there was no access to the rivers or streams. The southern portion of the country depended on such irrigation wells, particularly in the neighbourhood of Mardin and Midyat where there were many vineyards.[12] Naturally, the type of agriculture varied according to the type of soil, climate, elevation, and availability of water. Wheat, barley, rice, and maize were most widely grown; in some areas of Siird where maize and millet were the primary produce. Lands with rich water resources, especially those located on the banks of the Euphrates and Tigris rivers, were well-suited to the cultivation of rice. These included marshy lands along in Malatya, Harput, Silvan, Redvan, Beşiri, and in the fields along both sides of the Ambar Su.[13] The plain in the district of Garzan was one of the rice growing areas in the country. According to the provincial yearbook for 1884-85, the rice grown in the neighbourhood of Karaca Mountain was famous and historically rice was exported to the province of Erzurum and Aleppo.[14] Rice was sown in March and harvested in September

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[11] TNA: FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 Heard to O'Conor "Report on Agriculture in Kurdistan."; Maunsell, "Kurdistan," 85–86.
[12] TNA: FO 925/41093, "*Eastern Turkey in Asia: Mardin*."
[13] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 120–21.; TNA, FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 Heard to O'Conor "Report on Agriculture in Kurdistan."; FO 925/41093, "*Eastern Turkey in Asia: Mush – Farqin*."; FO 925/41093, "*Eastern Turkey in Asia: Mardin*."; *Sâlnâme-i Vilayet-i Diyarbekir*, Defa 12, 1302/1884-85
[14] *Sâlnâme-i Vilayet-i Diyarbekir*, Defa 12, 1302/1884-85

and October. At the seedling stage rice demands high moisture levels, and is best suited to bare and low fields.[15]

Crop rotation varied from one region to the next and over the century. In 1830, for example, peasants in the middle zone tended to leave the land fallow every three years. By the second half of the century, however, it was left uncultivated once in four years.[16] By the early twentieth century the land lay fallow for two years and was ploughed in the third.[17] Commercial crops required a different regime: in the plain of Harput, for example, the land was tilled every year and corn, barley, and cotton were grown in rotation.[18]

Siverek, Silvan, Beşiri, and Redvan were the chief producers of wheat and barley in the province.[19] Mardin and Nisibin were the other important producers, providing not only enough consumable produce for local inhabitants, but also enough for the large

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[15] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 118–19.
[16] TNA: FO 195/889, no. 10, Diyarbekir, April 18, 1867 Taylor to Lyous
[17] TNA: FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 Heard to O'Conor "Report on Agriculture in Kurdistan."
[18] TNA: FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 Heard to O'Conor "Report on Agriculture in Kurdistan."
[19] TNA: FO 195/889, no. 10, Diyarbekir, April 18, 1867 Taylor to Lyous; FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 Heard to O'Conor "Report on Agriculture in Kurdistan."

Kurdish and Arab tribes in the vicinity.[20] In these regions, the grain and pulse crops included barley, rice, lentils, and millet; sesame was grown for oil, in addition to commercial crops like tobacco and cotton. In 1864, the breakdown of cultivation by crop in these fertile agricultural areas was 46-47% wheat, 23% barley, 10% rice, 10% cotton, 7% maize and millet, and 3% oil seeds (predominantly sesame).[21]

Millet, rye, and oats were widely cultivated. Millet, both white and red breeds, was sown in March and reaped in July. It was grown in stony soils in the area of Siird. British observers, who rarely understood the pastoralist economy, commented that millet was "in favour with the Kurds [referring to Kurdish tribes] as it requires little labour and gives quick returns."[22] It was also vital for feeding livestock during the winter and thus an appealing crop for herders. Rye was grown in stony and mountainous areas. Wastelands in the mountainous parts of Harput, for example, while unable to support wheat crops, provided excellent conditions for rye cultivation.[23] Oat, which was the primary feed for

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[20] TNA: FO 78/1607, no. 36, encl. 1, Diyabekir, December 31, 1861 Taylor to Russell "Report on the Trade of Diabekr for the year 1861."
[21] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the trade of Diabekr and Koordistan for the year 1863." dated Diyarbekir, March 31, 1864; Compare, Issawi, *The Economic History of Turkey, 1800-1914*, 199–200.
[22] TNA: FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 Heard to O'Conor "Report on Agriculture in Kurdistan."
[23] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 116.

horses and horned cattle, was grown in every district with a primary centre of production in the watery part of the Bitlis valley.[24]

In addition to cereals, some important commercial agricultural crops were grown in different parts of the country. But both tobacco and cotton required irrigation in the predominantly semi-arid climate. Cotton must be grown in gravelly soil, and demands large amounts of water in its germination phase and a very dry temperature during ripening time. Harput, Çermik, Çüngüş, Palu, and Garzan produced the most cotton, and some was also grown in other parts of the region.[25] Cotton was sown from March until May and gathered in September and October. Some places such as Mardin and Mosul produced only enough cotton for local consumption.[26] Tobacco was cultivated in Siverek, Silvan, Lice, Mardin, Nisibin, and some parts of Hısn–ı Mansur.[27]

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[24] Ibid., 118.
[25] TNA: FO 195/889, no. 10, Diyarbekir, April 18, 1867 Taylor to Lyous "Report on the trade and condition of the Vilaiyet of Erzeroom and Eyalets of Harput and Diarbekr, composing consular district of Koordistan, for the year 1866."; FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 Heard to O'Conor "Report on Agriculture in Kurdistan."
[26] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 129.
[27] Ibid., 125; James Brant, "Notes of a Journey Through a Part of Kurdistán, in the Summer of 1838," *Journal of the Royal Geographical Society of London* 10 (1840): 358–62, 367.; TNA: FO 195/122, Erzurum, July 16, 1839 Brant to Pansonby; FO 195/2283, no. 3, encl. 1, Diyarbekir, February 26, 1908 Heard to O'Conor "Report on Agriculture in Kurdistan."; FO 925/41093, "*Eastern Turkey in Asia*."

Due to differences in seasonal temperatures, the harvest in the southern provinces came a few months earlier than that of the northern provinces. Wheat and barley were the first crops gathered in June and July. Sowing at the right time is critical for optimizing the quantity and quality of crop yields. In the semi-arid climatic conditions of Diyarbekir itself wheat was also winter crop: typically, wheat seed was sown from September to December. June and July was the harvest season for winter wheat, which had to be stored by the end of September. In Diyarbekir province wheat was sown during the autumn months, when the humidity of soil and temperature are adequate for the establishment of seed on the ground. In its first phase, the wheat seed begins to absorb moisture in the soil for germination.[28] In terms of the demands of wheat crops, water is most important at the outset after planting. Wheat shoots demand the most moisture during emergence, booting and milk/heading periods. During its flowering and ripening phases, adequate sunshine is critical.[29] Any delay in moisture and/or unseasonable warmth can negatively affect the quality and quantity of grain yield. Insufficient moisture during early phase of growing will directly affect the yield. Since most of its rainfall occurs in March, April, and May, wheat was grown easily in Diyarbekir province.[30] That is, peasants counted on an

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[28] Orkan Özcan et al., "Buğday Bitkisinin Farklı Ekim Bölgelerindeki Gelişim Düzeyinin Bilgi Teknolojileri ile İncelenmesi" (presented at the TMMOB Coğrafi Bilgi Sistemleri Kongresi, Antalya, 2014).
[29] Ibid.
[30] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 77.

increased water supply in the spring.[31] Any variation in periodicity of rain, especially unusually hot, dry temperatures during the spring results proved devastating to cultivation of wheat.

Barley was resistant to lower temperatures. It was a winter crop, sown from November to the end of February and reaped before the wheat. The higher lands in Malatya and Diyarbekir were the major growing areas for barley, which was used to feed animals over the winter.[32] Although barley was more resistant to variations in temperature and water sources, when wheat crops failed peasants competed with their animals for barley as a staple food.

Wheat and barley were the most important crops for feeding human beings and their animals. When the spring rains failed it had a ripple effect on the entire year's cultivation. Plants were stunted or failed to mature. Fall harvests were small and insufficient seed remained for replanting during the winter. Barley, which was typically used as fodder for animals over the winter was consumed by human beings who were then forced to sell or slaughter their plough animals. A vicious cycle set in depriving peasants of future yields and draft animals.

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[31] Özcan et al., "Buğday Bitkisinin Farklı Ekim Bölgelerindeki Gelişim Düzeyinin Bilgi Teknolojileri ile Incelenmesi."
[32] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 116–17.

The Meanings of "Drought"

Having established the key agricultural features of the region, we will now turn to the influences of drought on these crops in nineteenth century Ottoman Kurdistan. Before doing this, it is necessary to define "drought."

The United States National Weather Service identifies drought as "a deficiency in precipitation over an extended period, usually for one or more seasons, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people."[33] In other words, drought is a temporary departure from normal climatic conditions. Drought can be experienced in different ways from one region to another depending on multiple natural circumstances, such as the area's geography, elevation, typical annual rainfall, rivers and lakes, and man-made infrastructure, such as dams and human-engineered lakes. Thus "subsequent drought in the same region will probably have different effects, even, it is identical in intensity, duration, and spatial characteristics."[34]

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[33] National Weather Service, "*Drought: Public Fact Sheet*," (National Weather Service, Washington, D.C., Electronic Document, 2008) http://www.nws.noaa.gov/os/brochures/climate/DroughtPublic2.pdf; For human vulnerability to drought; Scott E. Ingram, "Human Vulnerability to Dry Periods," in *Traditional Arid Lands Agriculture: Understanding the Past for the Future*, ed. Scott E. Ingram and Robert C. Hunt (Tuscon: University of Arizona Press, 2015), 133.
[34] Donald A. Wilhite and Michael H. Glantz, "Understanding the Drought Phenomenon: The Role of Definitions," *Water International* 10, no. 3 (1985): 111–20.

According to climatologists there are different types of drought that originate from deficiency of precipitation. Hydrological (meteorological) drought concerns precipitation shortages that impact water supply particularly in the form of streams, reservoirs, water tables, and ground water sources. Agricultural drought pertains to the different impact of deficiency in precipitation on crops. Specifically, it refers to a plant's demand for water, which depends on different factors, including the stage of growth, elevation, as well as the physical and biological properties of the soil.[35]

A drought may take place over a single season or continue for a couple of years; however, its political, economic, and social impact can linger long afterward.[36] The overall influences of a drought depends not only on a specific normal climate, but also on the vulnerability of the region's animals and ecosystem to drought at that particular moment in the year. Precipitation shortfalls affect the entire ecological system, including the wild plants and insects on which other animals feed.

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[35] National Weather Service, "*Drought: Public Fact Sheet*," (National Weather Service, Washington, D.C., Electronic Document, 2008), Accessed 2.12.15 http://www.nws.noaa.gov/os/brochures/climate/DroughtPublic2.pdf

[36] Wilhite and Glantz, "Understanding the Drought Phenomenon: The Role of Definitions," 112.

To a degree drought was a consistent factor of life in Asia Minor. Based on dendrochronological studies on south-western Anatolia and the Black Sea region,[37] we can better understand precipitation rates in Asia Minor and Kurdistan between 1800 and 1900. These tree-ring studies in the Eastern Mediterranean Basin provide an understanding of the typical fluctuation of drought cycles, which comprehended one or two years of growing seasons with a periodicity of once in six years. Tree-ring studies conducted in western Turkey specifically indicate that major droughts occurred in the following years: 1873-75, 1878-79, 1887, 1890-91, 1893-94; the years 1844-1846, 1866, 1875, and 1904 are considered semi-dry. In the same studies, the years 1811, 1816, 1871, 1877, 1881, 1896, and 1901 were identified as wet.[38]

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[37] Ramzi Touchan et al., "Preliminary Reconstructions of Spring Precipitation in Southwestern Turkey from Tree-Ring Width," *International Journal of Climatology* 23, no. 2 (2003): 157–71; Ünal Akkemik, Nesibe Dağdeviren, and Aliye Aras, "A Preliminary Reconstruction (A.D. 1635–2000) of Spring Precipitation Using Oak Tree Rings in the Western Black Sea Region of Turkey," *International Journal of Biometeorol*, no. 49 (2005): 297–302; Ünal Akkemik et al., "Tree-Ring Reconstructions of Precipitation and Streamflow for North-Western Turkey," *International Journal of Climatology* 28, no. 2 (2008): 173–83.

[38] Ramzi Touchan et al., "Reconstructions of Spring/summer Precipitation for the Eastern Mediterranean from Tree-Ring Widths and Its Connection to Large-Scale Atmospheric Circulation," *Climate Dynamics* 25, no. 1 (2005): 88. See A. Nicault et al., "Mediterranean Drought Fluctuation during the Last 500 Years Based on Tree-Ring Data," *Climate Dynamics* 31, no. 2–3 (2008): 227–45.
P. I. Kuniholm, "Archaeological Evidence and Non-Evidence for Climatic Change," *Philosophical Transactions of the Royal Society of London A: Mathematical, Physical and Engineering Sciences* 330, no. 1615 (1990): 252; Ünal Akkemik, Nesibe Dağdeviren, and Aliye Aras, "A Preliminary Reconstruction (A.D. 1635–2000) of Spring Precipitation

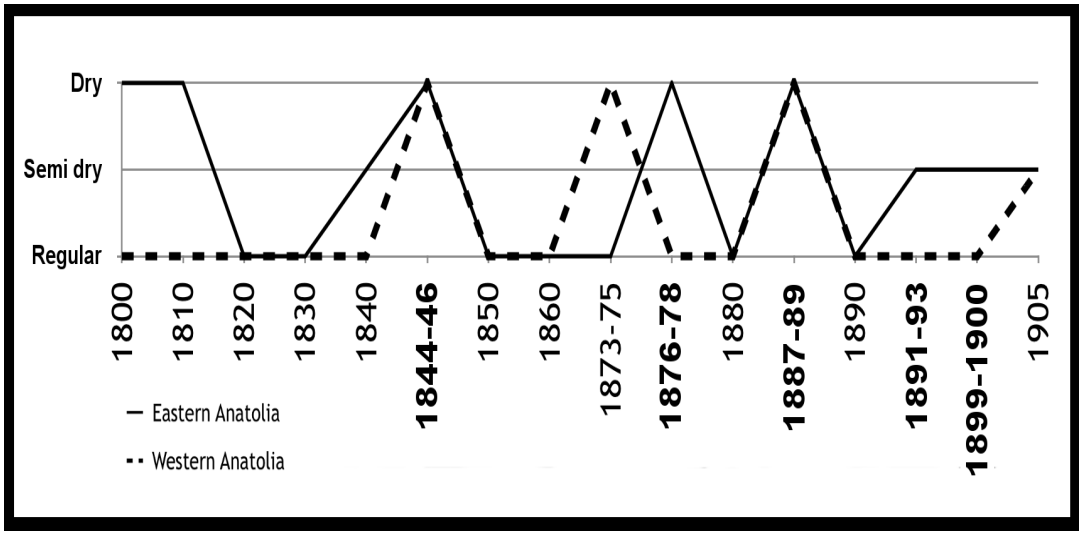

Chart 2.1. Fluctuations in Rainfall in Asia Minor and Kurdistan
Years 1844-46, 1876-78, 1887-89, and 1899-1900 in bold print indicate global ENSO years.

Chart 2.1 combines my qualitative data with climatologists' research on long-term patterns of precipitation. It points to a rough correlation of ENSO periods and regional precipitation patterns over the nineteenth century. Other than the period, 1844-46 and 1887-89, there was a discrepancy between periods of drought in Anatolia. Overall, Eastern Anatolian (Kurdistan) patterns correlated strongly with global cycles. Generally, the eastern provinces experienced dry spells more frequently, although the two major

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Using Oak Tree Rings in the Western Black Sea Region of Turkey," 300; Ünal Akkemik and Aliye Aras, "Reconstruction (1689–1994 AD) of April–August Precipitation in the Southern Part of Central Turkey," *International Journal of Climatology* 25, no. 4 (2005): 537–48; Ramzi Touchan et al., "May–June Precipitation Reconstruction of Southwestern Anatolia, Turkey during the Last 900 Years from Tree Rings," *Quaternary Research* 68, no. 2 (2007): 200–201; Ghasem Azizi et al., "Precipitation Variations in the Central Zagros Mountains (Iran) since A.D. 1840 Based on Oak Tree Rings," *Palaeogeography, Palaeoclimatology, Palaeoecology*, no. 386 (2013): 96–103.

ENSO cycles of 1844-1846 and 1876-78 coincided with drought across Anatolia. For Kurdistan, the most extreme weather conditions were experienced after 1879, parallel to one of the strongest El Niño cycles that caused droughts all over the globe; the most destructive drought occurred in central Anatolia in 1873-74.[39] It is important to note that the most extreme climatic events, the driest and the wettest, were recorded in the last quarter of the century – in Sivas, a mid-size town on the northwest of Diyarbekir province and a major producer of grain – the wettest year in a 350 year period (1628-1980) was the year 1877 and the driest one 1887.[40] Between 1860 and 1890, the intervals between dry periods in the eastern provinces were shorter than those in the western provinces of the empire.[41]

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[39] For more on this topic, George Edward White, *Charles Chapin Tracy, Missionary, Philanthropist, Educator, First President of Anatolia College, Marsovan, Turkey* (Boston; Chicago: The Pilgrim Press, 1918), 16–17; Donald Quataert, "Ottoman Reform and Agriculture in Anatolia, 1876-1908" (University of California, 1973); Kuniholm, "Archaeological Evidence and Non-Evidence for Climatic Change"; Ertem, "Eating the Last Seed"; Erler, *Osmanlı Devletin'de Kuraklık ve Kıtlık Olayları, 1800-1880*.

[40] Rosanne D'Arrigo and Heidi M. Cullen, "A 350-Year (AD 1628-1980) Reconstruction of Turkish Precipitation," *Dendrochronologia* 19, no. 2 (2001): 169–77.

[41] Compare findings for Ankara, Konya and Hüdavendigar in 1845; Erler, *Osmanlı Devletin'de Kuraklık ve Kıtlık Olayları, 1800-1880*, 139–146. On Syria, see Elizabeth Thompson, "Ottoman Political Reform in the Provinces: The Damascus Advisory Council in 1844-45," *International Journal of Middle East Studies* 25, no. 3 (August 1, 1993): 457–75.

Crop Failure and Peasant Resistance

In a semi-arid environment lack of precipitation was not necessarily a problem. It depended critically when the region experienced a shortage of rainfall in terms of the annual cycle of planting. When lack of water affected the germination of wheat, the impact was pervasive. The springtime droughts of the 1840s were not typical nor was their impact short-lived.

In 1840 and 1841, throughout Anatolia and Northern Iraq the lack of precipitation in the spring resulted in poor harvest and rising prices of staples. Not only in Kayseri, Ankara, and Erzurum,[42] even in Trabzon, an important port city on the Black Sea coast, the local British vice-consul noted that the outlying areas suffered from "deficiency in the early harvests of wheat and barley, caused by a dry spring." He noted that the short supply of other crops, such as corn and nuts and that "pasturage [was] extremely scanty."[43] In Erzurum, British Consul James Brant reported that drought and the resulting "short crops of the past and preceding years" had caused "distress among the poorer

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[42] TNA: FO 78/443, Trabzon, December 31, 1840 Stevens to Brant; Issawi, *The Economic History of Turkey, 1800-1914*, 205. For rise in grain prices and lowered costs of meat (as peasants sold their animals) see Charles Issawi, *The Fertile Crescent, 1800-1914 : A Documentary Economic History* (Oxford: Oxford University Press, 1988), 458. And Mustafa Öztürk, "Güney-Doğu Anadolu'da Fiyatlar," in *V. Milletlerarası Türkiye Sosyal ve İktisat Tarihi Kongresi* (Ankara: Türk Tarih Kurumu, 1989), 99–121.
[43] TNA: FO 195/175, Trabzon, December 31, 1840 Suter to Brant

classes."[44] Bread was selling for six times the normal price.[45] Farther south in northern Iraq/southern Kurdistan, the harvests in Mosul were so poor that the authorities anticipated famine. Leaders of the major faiths in the city conducted public prayers for rain in May of 1841.[46]

A document dated July 19, 1841 traced the myriad impact of drought to 1840. Already inhabitants of the province were in need of seed to sow for the next year and draft animals to pull loads.[47] They asked the authorities for seed and animals to plough soil for annual cultivation. The Ottoman state was not indifferent to such demands, as I will detail in Chapter four.[48] It was in the state's interest to provide the peasants of Diyarbekir and Urfa provinces with necessary means to produce food and of course needed supplies and revenue.

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[44] TNA: TNA: FO 195/175, no. 1, encl. 1, January 26, 1841 Brant to Pansonby "Report on the trade of Erzeroom for 1840, and on the state of the Pashalik." dated January 21, 1841

[45] TNA: FO 195/175, no. 1, Erzurum, January 21, 1841 Brant to Ponsonby Erzurum's winter too was "mild" [meaning lack of snow]

[46] TNA: FO 78/443, no. 14, Erzurum, June 26, 1841 Brant to Palmerston

[47] BOA, ML.EVM, 512/16, 29 Cemaziyelevvel 1257/July 19, 1841, p.43; for implications of drought in Bursa province see Issawi, *The Economic History of Turkey, 1800-1914*, 221.

[48] BOA, İ.MVL, 27/449, 25 Recep 1257/September 14, 1841.

The drought continued for two years straight, affecting the provinces of Diyarbekir, Mosul, Aleppo, Angora, and Konya.[49] A locust infestation destroyed what remained of agricultural yields. In Bohtan and Cezire, for instance, the crops had been damaged by swarms of locusts originating from the deserts of Iraq, a fact confirmed to the British Consul Henry Stevens in June 1844 in an interview with the Kurdish leader and the governor of Cezire, Bedirhan Bey.[50] Farther south, particularly in agricultural districts outside of the city of Mosul, locusts destroyed cotton, wheat, and vegetables.[51] The British consul in Aleppo worried about the scarcity of grain in the town of Urfa.[52]

Deficiency of rain in many villages in the area surrounding Diyarbekir left peasants without food or seed.[53] The scarcity of rain *(kıllet-i nüzul-ı baran*) continued to harm agriculture, according to an Ottoman report dated November 15, 1845.[54] In approximately 200 villages surrounding the city of Diyarbekir peasants did not have enough wheat and barley seed to sow the next year's crop. Ottoman authorities ordered that 1,000 Diyarbekir *kile*s of seed was to be distributed to peasants who would have to repay the state at harvest time. It is unclear whether this allotment sufficed. In response to

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[49] For western and central Anatolia; Erler, *Osmanlı Devletin'de Kuraklık ve Kıtlık Olayları, 1800-1880*, 139–146.
[50] TNA: FO 195/228, Mosul, July 10, 1844, Stevens to Canning "Report on a visit to Bedr Khan Beg."
[51] TNA: FO 195/228, no. 24, Mosul, August 24, 1844 Rassam to Canning.
[52] TNA: FO 195/207, no. 10, Aleppo, April 19, 1845 Werry to Canning.
[53] BOA, ML.MKT.d.138, 11 Zilkade 1261/November 11, 1845
[54] BOA, C.İKT, 637/13, 15 Zilkade 1261/November 15, 1845

the Porte's order in spring 1847 for grain for the governor-general *müşir* and chief *defterdar* (treasurer) of Diyarbekir explained the difficulties of supplying the requested amount.[55] Wheat and barley continued to be in short supply and the population was suffering. In spite of the scarcity of crops, the governors forcibly collected 7,500 local *kiles* of wheat and barley from farmers, as well as substantial amounts of butter from various districts of Diyarbekir including Behramki, Lice, Hazro, Hani, Kiki, Turkman, Şark, Garb, Savur, Metinan, Beşiri, Redvan, and Derik.[56]

The state's solicitude for peasant welfare in these years of regional and international conflict was marked by inconsistency. In 1845 and 1846 in Mosul, the quality and quantity of seed put into the ground was far less than usual.[57] According to a British observer no more than a tithe of the usual quantity of seed had been put into the ground during the sowing season.[58] Şerif Bey, *şehir kahyası* noted that "the whole of the open country was exhausted, that only a few Christian villages had begun to plough, the rest wanting both courage and means to a renew cultivation."[59] Despite expected rainfalls

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[55] BOA, İ.DH, 144/7413, 3 Cemaziyelevvel 1263/April 19, 1847; A.MKT, 69/30, 15 Rebiülevvel 1263/May 1, 1847
[56] BOA, İ.DH, 144/7413, 3 Cemaziyelevvel 1263/April 19, 1847
[57] TNA: FO 195/228, no. 32, Mosul, August 10, 1846 Rassam to Canning
[58] TNA: FO 195/228, no. 33, Mosul September 25, 1845 Rassam to Canning
[59] TNA: FO 195/228, no. 35, Mosul, October 18, 1845 Rassam to Canning

in the spring of 1846, the situation could not be turned around easily: prices remained high.[60] The drought in 1845 had a long term impact on the region.

In 1847, once more, unseasonable warmth was recorded in Mosul and its northern provinces. Lack of rainfall led to failure of wheat crops though some spring showers saved some crops of barley.[61] Shortage of rain occurred in every part of the province but areas at lower elevation were mostly affected while villages at higher elevations managed to bring some crops to harvest in 1847.[62] Throughout the lower lands, an average less than the quantity of seed sown was produced.[63] The effects of the drought had been aggravated by the appearance of locusts in several places throughout the country. Yields varied widely from one year to the next despite the amount of seed sown.[64]

Resistance to the combined pressures of the state and environmental crises took many forms. In 1845, the city of Erzurum whose population sympathized with many of the Kurdish khans in revolt against the central government was defiant. A petition sent by the Christian and Muslim notables of the region in 1846 though proclaiming loyalty to the state made the following demands: an end to excessive taxation, conscription of soldiers, billeting of troops, and quarantines. They rejected, above all the reforms (which

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[60] TNA: FO 195/228, no. 32, Mosul, August 10, 1846 Rassam to Canning
[61] TNA: FO 195/301, no. 16, Mosul, April 5, 1847 Rassam to Wellesley
[62] TNA: FO 195/301, no. 27, Mosul, June 14, 1847 Rassam to Cowley
[63] TNA: FO 195/301, no. 35, Mosul, July 24, 1847 Rassam to Canning
[64] TNA: FO 195/301, no. 50, Mosul, October 18, 1847 Rassam to Canning

will be discussed in chapter four), under the heading of the "Tanzimat" which they interpreted as simply another means of taxation and government intervention in local affairs.[65]

Given lack of food, the death of draft animals, and scarcity of seed flight was the most common reaction to prolonged drought. An Ottoman document dated May 24, 1845 described the situation in many villages of the province of Diyarbekir where abandonment of villages and fields was common. In Lice district 266 households had already fled from villages.[66] Apparently, members of these households migrated to the town of Lice itself while local and Diyarbekir authorities attempted to make them to return to the village.

The year before, many peasants had also abandoned their lands in the province of Mosul due to crop failure and fled to Cezire, Bohtan or Bedirhan Bey's territory, located in the northern zones of Kurdistan.[67] Whether or not climatic conditions were better for cultivation, villagers from various districts of northern Mesopotamia, including the areas surrounding Raqqa, also fled to the country of Bedirhan Bey,[68] who was considered a

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[65] Ateş, *The Ottoman-Iranian Borderlands: Making a Boundary, 1843-1914*, 76.
[66] BOA, İ.DH, 103/5197, 17 Cemaziyelevvel 1261/May 24, 1845
[67] TNA: FO 195/228, no. 24, Mosul, August 24, 1844 Rassam to Canning
[68] TNA: FO 195/228, no. 32, Mosul, October 5, 1844 Rassam to Canning

"universal refuge for all in trouble."[69] By the autumn of 1845, another wave of flight resulted from demands for taxes by the governor, Muhammad Pasha of Mosul. A peasant petition recorded these conditions:

> the Kahya of villages were assembled at the Kishla [casern] and the Pasha asked them how it was that the people were deserting. The men answered boldly that he had not only taken everything from them, but had not even left them bread, and passionately added that he might cut them to pieces but they could not pay no more.[70]

In Diyarbekir province, both Christian and Muslim inhabitants of Azikh, a large village in Jabel Tor, left their fields and gardens empty without sowing to protest over-taxation.[71]

The impact of drought was pervasive, affecting many relationships from that of 'the desert and the sown" to trade and peasant incomes. Many villages had been deserted due to crop failure and unusual scarcity.[72] In the district of Akra for instance, Kurds and villagers abandoned their crops and fled to Persia by the way of Rewanduz.[73] In the neighbourhood of Mardin, the Şammar Arab tribe waited for the grain to be thrashed before entering the fields to feed their herds while nearly two thirds of Zaho's population, including the *kadı* (judge) himself, had run away because they were unable to pay their

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[69] TNA: FO 195/228, no. 24, Mosul, August 24, 1844 Rassam to Canning
[70] TNA: FO 195/228, no. 33, Mosul, September 25, 1845 Rassam to Canning
[71] TNA: FO 195/301, no. 15, Mosul, August 6, 1849 Rassam to Canning
[72] TNA: FO 195/237, no. 27, Baghdad, July 19, 1845 Rawlinson to Canning
[73] TNA: FO 195/228, no. 17, Mosul, May 17, 1845 Rassam to Canning

taxes.[74] Added to these woes was a sharp curtailment of regional trade as pack animals were requisitioned by the military operation for a campaign against the Kurdish rebellion led by Bedirhan Bey in Cezire.[75] Again, military operation against Bedirhan in 1846 resulted in an increased demand for cereals, or supplies of grain to feed the imperial army, as well as animals for transporting military equipment.

In spite of attempts to keep peasants in their lands, the natives continued "to abscond and whole villages [were] deserted"[76] in the northern districts of Mosul province. By 1846-1847, from Mosul to Diyarbekir province, dozens of villages had been deserted totally or had lost high numbers of inhabitants. Many villages of 30 to 50 houses were reduced to 3 to 7 families by the autumn of 1847.[77] According to Ottoman population survey, about eleven per cent of villages (276 of 2,467) were either *harabe* (totally ruined) or *hali* (abandoned) in 1846.[78] The district surrounding the city of Diyarbekir had lost about one out of every five villages in the province. The rate of

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[74] TNA: FO 195/228, no. 23, Mosul, July 26, 1845 Rassam to Canning
[75] For Bedirhan Bey Revolt; Ahmet Kardam, *Cizre - Bohtan Beyi Bedirhan: Direniş ve İsyan Yılları* (Ankara: Dipnot, 2011).
[76] TNA: FO 195/301, no. 18, Mosul, April 17, 1847 Rassam to Wellesley
[77] TNA: FO 195/301, no. 53, Mosul, November 12, 1847 Rassam to Wellesley; For implications of drought on the abandoned villages in province of Diyarbekir in 1840s; Zozan Pehlivan, "Abandoned Villages in Diyarbekir Province at the end of the 'Little Ice Age,'" in *The Ottoman East: Trans-regionalism, Fluid Identities and Local Politics in the 19th and 20th Centuries*, ed. Yaşar Tolga Cora, Dzovinar Derderian, and Ali Sipahi (New York, London: I. B. Tauris) (forthcoming)
[78] BOA, Nfs.d. 3735 1261-62/1845-46.

abandonment in the sub-district of Turkman, situated in the west of the administrative capital, approached fifty per cent. Ze(i)kti, Neckik, Sinan, Mihrani, Hani, and Beşiri were the other districts where the rate of abandonment was higher than the regional average. (Table 2.1)

Table 2.1. The distribution of population in the Diyarbekir Province (1845-46)

Administrative Units	Number of Households	Number of *Mezra*s	Number of villages	Number of Abandoned villages	Abandoned villages in Percentages
Nefsi Diyarbekir	8354	4	251	46	18%
Nahiye-i Kiki	714	1	56	14	25%
Nahiye-i Turkman	1031	1	33	16	48%
Nahiye-i Abgor	148	0	7	0	0
Kaza-i Beşiri	2446	0	75	32	43%
Nahiye-i Bahmis	413	0	23	0	0
Kaza-i Hoydan	233	0	23	5	22%
Kaza-i Hani	1128	0	61	23	33%
Kaza-i Lice	2910	12	74	0	0
Kaza-i Siird	705	0	13	0	0
Kaza-i Kobenik	178	0	22	0	0
Kaza-i Karakeçi	82	0	3	0	0
Kaza-i Mahal	238	0	12	0	0
Kaza-i Hazro	1396	0	91	19	21%
Kaza-i Mihrani	340	0	39	14	36%
Kaza-i Rıdvan	1268	0	58	0	0
Kaza-i Garzan	1023	0	58	0	0
Kaza-i Savur	979	0	22	0	0
Kaza-i Kurdilan	275	0	9	0	0
Kaza-i Meneşkon(ur)	229	0	27	9	33%
Kaza-i Genç	351	0	28	4	14%
Kaza-i Zikti	270	0	50	20	40%
Kaza-i Çapakçur	1031	7	62	1	2%
Kaza-i Neckik	129	0	25	10	40%
Kaza-i Şirvan	2385	1	187	0	0%
Kaza-i Midyat	2590	0	284	0	0%
Kaza-i Hani(?)	356	0	37	13	35%
Kaza-i Peçar	536	0	26	6	23%

Kaza-i Kulp	443	0	28	4	14%
Kaza-i Dirik	667	0	22	2	9%
Kaza-i Sinan	279	0	30	11	37%
Kaza-i Silvan	2320	0	138	23	17%
Kaza-i Behramki	959	0	46	3	7%
Kaza-i Badikan	95	0	8	0	0%
Liva-i Cezire Bohtan	2451	0	219	0	0%
Aşair haymenişin tabii Cezire Bohtan	616	TENT	TENT	TENT	TENT
Kaza-i Bohtan	3175	0	168	0	0%
Kaza-i Hacı Behram	505	0	39	0	0%
Kaza-i Mardin	2063	0	26	0	0%
Nahiye-i etrafşehr tabii Kaza-i Mardin	778	0	23	1	4%
Kaza-i Ömergan	1127	0	35	0	0%
Kaza-i Sürgücü	1013	0	29	0	0%
TOTAL	**48229**	**26**	**2467**	**276**	**11%**

Source: BOA, NFS.d 3735.

Under conditions where chronic undernourishment affected large numbers of the population in both cities and villages, they also became vulnerable to disease. Asiatic cholera, a worldwide scourge, made its first appearance in Ottoman Asia in Baghdad in early September of 1846.[79] It also came from the north, through regions linked to Russia, including Iran and through the Black Sea. In the northeast corner of Ottoman Asia, cholera appeared in the Çıldır district of the Erzurum province, which was believed, according to British reports, to have originally via "Kabul and Herat to Mashhed and Nishapur."[80] As a result, cholera spread from two directions, via maritime trade and

[79] TNA: FO 195/237, no. 53, Baghdad, October 14, 1846 Rawlinson to Wellesley
[80] TNA: FO 78/752, no. 9, Erzurum, February 9, 1848 Brant to Palmerston; For a detail report on Cholera in 1848 see A&P, (1850), Report of the General Board of Health on the epidemic cholera of 1848 & 1849.

pilgrimages from the Indian Ocean through the Persian Gulf and from Afghanistan, Iran, and Russia.[81]

Whether it was peasants in the villages or nomads in their tents, thousands of individuals were infected in the province of Mosul, resulting in a movement of people escaping from the wet pestilence areas to the dry country. By February 1848, there was cholera in Keban Mine, Ergani, Harput, and Diyarbekir. Water sources which were used for many needs, such as the Tigris and Euphrates and their tributaries and springs spread of disease widely. The rate of the abandonment along the banks of the river was particularly high and many villages were completely deserted.[82]

In order to get the epidemic under the control, local authorities established a quarantine station at Birecik.[83] Merchant caravans and travellers were required to remain in the centre under observation for three weeks. As we now know, the three-week observation period was not enough time to determine infection, since morbidity varies from one individual to the next.[84] Moreover, some people although asymptomatic are

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[81] See Gülden Sarıyıldız, *Hicaz Karantina Teşkilatı, 1865-1914* (Ankara: Türk Tarih Kurumu Basımevi, 1996); Birsen Bulmuş, *Plague, Quarantines and Geopolitics in the Ottoman Empire* (Edinburgh: Edinburgh University Press, 2012).
[82] TNA: FO 195/301, no. 8, Mosul, February 7, 1848 Rassam to Cowley
[83] TNA: FO 195/301, no. 35, Mosul, October 2, 1848 Rassam to Canning
[84] For different descriptions of cholera and its treatment see James B. Kaper, J. Glenn Morris, and Myron M. Levine, "Cholera," *Clinical Microbiology Reviews* 8, no. 1 (1998): 48–86.

actually disease carriers. State efforts to contain the epidemic were thus unsuccessful, not for lack of effort but because the period of quarantine was insufficient.[85] The population did their best to avoid quarantine as well. Up to a half million people in the country between Aleppo and Diyarbekir were stricken with cholera and many thousands died.[86]

By the summer of 1848, mortality was on the rise. In Diyarbekir alone, about three hundred victims died daily.[87] The inhabitants of Aleppo, Birecik, Urfa, Siverek, Nisibin, and Mardin also suffered from the same pestilence and the number of causalities increased.[88] Cholera struck immediately before the harvest. Although a bountiful yield that year, the lack of labour left the crops "to be trodden down in the fields without any person to reap [them]."[89] Epidemics culminated the longer-term devastation caused by drought and food insecurity.

Partial Recovery after 1850

The region experienced a reprieve in the decades following the ENSO-linked agricultural disasters of the 1840s. Despite the fact that locust became a regular problem in

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[85] Ayalon, *Natural Disasters in the Ottoman Empire*.
[86] TNA: FO 195/301, no. 35, Mosul, October 2, 1848 Rassam to Canning
[87] TNA: FO 195/301, no. 33, Mosul, August 21, 1848 Rassam to Canning
[88] TNA: FO 195/301, no. 33.
[89] TNA: FO 195/301, no. 35, Mosul, October 2, 1848 Rassam to Canning

Diyarbekir, Aleppo, and Mosul every few years,[90] neither locusts nor conflict and war, including Yazdân Shîr rebellion (1855) in Cezire,[91] the Crimean War (1853-56)[92] with Russia interrupted the agricultural and commercial revival of Ottoman Kurdistan in the middle decades of the nineteenth century.[93] Indeed, the recovery continued despite the shift in trade caused by the 1869 opening of the Suez Canal. It would last until the breakout of another war with Russia in 1877.

Events half way around the world had a largely positive impact on the region. The American Civil War (1861-1865) was one of those events. Historically the region produced a variety of very important exportable articles, namely wool, mohair, hides, raw skins, and galls, which were each important raw materials of manufacturing industries. Wool, mohair, and galls were "eagerly sought after and brought up by Aleppo traders for further dispatch to Europe, a large part to England."[94] With the outbreak of the American

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[90] Wolf-Dieter Hütteroth, "Ecology of the Ottoman Empire," in *The Cambridge History Of Turkey: The Latter Ottoman Empire, 1603-1839*, ed. Suraiya Faroqhi, vol. III (Cambridge: Cambridge University Press, 2006), 36.
[91] James J. Reid, *Crisis of the Ottoman Empire: Prelude to Collapse 1839-1878* (Stuttgart: Franz Steiner Verlag Stuttgart, 2000), 299–305.
[92] For Ottoman-Crimean War; Candan Badem, *The Ottoman Crimean War* (Leiden: Brill, 2010).
[93] For an overview on economic growth of this period; Donald Quataert, "The Age of Reforms, 1812-1914," in *An Economic and Social History of the Ottoman Empire*, ed. Halil İnalcık and Donald Quataert, vol. II (Cambridge: Cambridge University Press, 1997), 759-943.
[94] TNA: FO 195/1005, copy, no. 14, Erzurum, November 18, 1872 Taylor to Granville "Report on the past and present condition of British Trade in Koordistan."

Civil War in 1861 combined with increased industrialization in Western Europe, the volume and value of raw material exports increased, particularly for wool and mohair. Raw cotton, which was almost entirely used for local production became an important export article. This unique conjuncture prompted an increase in cotton production in the region.[95] The Ottoman government encouraged locals to cultivate cotton by distributing cottonseed to peasants and some landlords.

[95] TNA: FO 195/1005, copy, no. 14, Erzurum, November 18, 1872 Taylor to Granville "Report on the past and present condition of British Trade in Koordistan."

Table 2.2. Estimated Production of Cereals and Cash Crops in Diyarbekir (1856-1909)

Products (tons)	1856	1863	1874-75	1884-85	1909
Wheat	--	214,000 quarter	254,000	445,000	233,958
Barley	--	295,000 quarter	172,000	240,000	52,567
Rice	735	93,300 bushels	885	632	20,602
Maize and Millet	--	85,000 quarter	1,654	--	24,124
Cotton	441	771-950	2,317	712	1,386
Linen	--	--	--	--	0
Sesame	250	--	3,589	1038	3,400
Tobacco	367	204	698	113	455
Opium		--	13	--	--
Silk	7	5	--	--	10,088
Sesame Oil	--	341	525	576	--

--: No data is available

The territorial boundaries of the province changed throughout the nineteenth century. See Appendix I.

Sources: TNA, FO 195/459, no. 13, encl. 1, Diyarbekir, April 14, 1857 Holmes to Stratford de Redcliffe "General Report on the Pashalik of Diyarbekir." dated March 31, 1857; FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on Trade of Diarbekr and Kurdistan for the Year 1863," dated, Diyarbekir, March 31, 1864; Salname-i Vilayet Diyarbekir, Defa 6, 1291/1874-75; Salname-i Vilayet Diyarbekir, Defa 12, 1302 /1884-85; Tevfik Güran, *Osmanlı dönemi tarım istatistikleri, 1909, 1913 ve 1914*, III (Ankara: T.C. Başbakanlık Devlet İstatistik Enstitüsü, 1997).

Over the decade between 1856 and 1863, the province's cotton production increased by more than fifty per cent; by 1875, cotton production in the region rose by

nearly 600 per cent. Prices doubled as well.[96] Reşat Kasaba identified the years of 1850 – 1860s as a strong export period for western Anatolia.[97]

In addition to producer of raw materials, the province was also a center of manufacturing. Many of these textiles such as *manusa* (striped cloth) and *basma* (stamped cloth) were aimed at local markets.[98] According to a trade report for 1863, there were about 5,520 looms in three important towns of the province: 2,710 in Diyarbekir, 1,720 in Mardin, and 1,080 in Siird.[99] In the neighbouring areas of Mardin and Jabel Tor, about 1,500 men and boys were employed on 1,200 looms in the manufacture of *abbas*, a native textile made at Mardin and Midyat out of mohair on cotton. The other important manufacture was leather, which was used by all classes in the region. Among the other towns in the province, Diyarbekir's leather was both in quality and quantity much better than those in Mardin and Siird. The reason for this superior quality was attributed to dyeing techniques using which used high quality cochineal and galls.[100] According to a report dated November 14, 1872, from 1865 to 1871 in Diyarbekir province, government

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[96] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on Trade of Diarbekr and Kurdistan for the Year 1863." dated, Diyarbekir, March 31, 1864
[97] Reşat Kasaba, *The Ottoman Empire and the World Economy : The Nineteenth Century* (Albany: State University of New York Press, 1988), 65.
[98] Donald Quataert, "The Age of Reforms, 1812-1914," 835.
[99] TNA: FO 195/799, no. 9 encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer
[100] TNA: FO 195/799, no. 9 encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer

income from taxes and tithes and from customs on salt and tobacco constantly increased.[101]

Aside from a partial drought event, occurring in 1859, these three decades were marked by favourable climate in the provinces of Diyarbekir, Aleppo, and Mosul.[102] But the memories of past hardship remained strong throughout the region. A shortfall in the harvest in 1859 provoked fears of famine in Aleppo. Farmers sought other work. Wealthier peasants, especially those who had draft animals, began to sell their oxen to meet needs.[103] Government efforts to import grain were not sufficient to allay such fears.

Unusually mild and warm weather in spring of the same year frightened the inhabitants of the city of Diyarbekir. According to William Richard Holmes, the first British Vice-consul for the province, townspeople believed that this "unusually fine weather" would cause serious damages to the crops and pressed local authorities to do something. Appreciating the city's trepidations, the governors ordered public prayers and ceremonies to be made for rain.[104] Unfortunately, praying was not enough to save the city

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[101] TNA: FO 195/1005, no. 14, Erzurum, November 18, 1872 Taylor to Granville "Report on the past and present condition of British Trade in Koordistan."
[102] TNA: FO 195/595, no. 36, Aleppo, October 8, 1859 Skene to Bulwer; FO 195/603, no. 20, Diyarbekir, May 17, 1859 Holmes to Bulwer
[103] TNA: FO 195/595, no. 36, encl. 1, Aleppo, October 8, 1859 Skene to Bulwer "Report on the quarterly return of prices of agricultural produce of Aleppo," dated September 30, 1859.
[104] TNA: FO 195/603, no. 20, Diyarbekir, May 17, 1859 Holmes to Bulwer

from a shortage of food. In the following months, the pasha prohibited surrounding districts from selling or moving grain anywhere but to Diyarbekir. He imposed price controls, which discouraged merchants from transporting grain from Silvan, "except what was taken by force by the Mudir."[105]

The governor's policies of restricting grain sales to urban residents left others without supplies. Members of the Kurdish tribe of Peçar went Diyarbekir to buy grain blaming the pasha's policies for starving them, despite the fact that they offered good quality cheese and butter in barter at very good price to the people of Silvan. However, local authorities there declared that there was "no grain left," for sale and the rest would be shipped to Diyarbekir according to the governor's orders.[106] Clashes broke out between the Kurdish tribe and the notables of Silvan district.

In this case it was local authorities that determined who would be fed and who would go hungry. Commercial and administrative cities were prioritized over the countryside and tribes. It appears that the prohibition on selling grain to Kurdish or Arab tribes during the shortage of food was a recurrent policy. Mehmet Pasha of Mosul gave an order that no one should sell grain to the 'Aniza Arabs with the exception of himself during the great famine of 1845. As a result of this decision, some tribes travelled as far

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[105] TNA: FO 195/603, no. 34, Diyarbekir, June 22, 1859 Holmes to Bulwer
[106] TNA: FO 195/603, no. 34, Diyarbekir, June 22, 1859 Holmes to Bulwer

as Baghdad.[107] The situation was no different for ‘Aniza in 1859. For example, about 18,000 tents travelled as far as Urfa sought to find grain as Aleppo and Mosul were experiencing a serious crop failure.[108]

In Aleppo in 1860 unseasonably high temperatures affected the germination of wheat plants: crops were “burnt up by the premature heat of the sun before they had attained sufficient ripeness” and left cultivators without seed for the next season.[109] Northeast of Aleppo, however, the weather was more favourable. In fact, that year in Diyarbekir, the harvest was exceptional both in quantity and quality and a great amount of grain was exported to Baghdad due to the dearth and high prices in Iraq.[110] Surplus was shipped as far as Europe. The province of Van, for instance, sent about 6,800 quarters of wheat via Trabzon to Western Europe in 1867. Given the high grain prices in London, the exportation of wheat became a profitable commercial activity, in part thanks to the low cost of transport, duty, and other charges at the port of Trabzon.[111] Although the road system remained rudimentary, this was not a problem as long as weather conditions permitted.

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[107] TNA: FO 195/228, no. 29, Mosul, September 6, 1845 Rassam to Canning
[108] TNA: FO 195/603, Diyarbekir, July 29, 1859, Holmes to Alison
[109] TNA: FO 195/647, no. 23, Aleppo, June 30, 1860 Skene to Bulwer
[110] TNA: FO 195/676, no. 1, Diyarbekir, January 8, 1861 Taylor to Bulwer
[111] TNA: FO 195/889, copy, no. 22, encl. 1, Diyarbekir, May 6, 1868 Taylor to Elliot, “Report on the Trade of the Consular district of Koordistan for 1867.” dated May 1, 1868

It was locusts rather than drought that destroyed crops in some parts of the province of Diyarbekir in the first half of the 1860s. By looking their implications it can be said that locusts were less destructive than drought, which has broader and more far-reaching effects. For example, unlike drought, which has a widespread impact on flora and fauna, the impact of locusts is more restricted. In the 1880s, Ottoman authorities, as I will describe in chapter four, actively tried to limit their damage by gathering and destroying eggs before they hatched. However, in 1860s, such measures were not taken and locusts caused great damage in the agricultural districts of the provinces of Diyarbekir, Aleppo, and Mosul provinces.[112] Locusts decimated the pasture areas of Urfa, Mardin, Ras al-Ayn, and Nisibin in 1861.[113] In 1862, locusts struck again in the fertile districts northeast of Diyarbekir[114] and in the following year.[115] In Mosul, the spring sowing season was delayed due to existence of locusts and the cotton planted in June was not ripe enough when the winter weather appeared. Only one eighth of the usual cotton

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[112] TNA: FO 195/676, copy, no. 7, Diyarbekir, June 12, 1861 Taylor to Bulwer; FO 195/716, no. 30, Aleppo, April 22, 1862 Skene to Bulwer; FO 195/799, no. 3, Diyarbekir, January 11, 1864, Taylor to Bulwer

[113] TNA: FO 78/1607, no. 36, encl. 1, Diyarbekir, December 31, 1861 Taylor to Russell "Trade report of Diyarbekir for the year 1861." dated December 1, 1861

[114] TNA: FO 78/1682, no. 23, encl. 1, 2, Diyarbekir, December 24, 1862 Taylor to Russell "Report on the Trade of the Pashalik of Diarbekr for the half-year ending [1861]." dated December 10, 1862.

[115] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade of Diarbekr and Koordistan, for the year 1863." dated March 31, 1864

output was harvested in 1863.[116] Government efforts, such as buying locust eggs from peasants who collected them from agricultural districts before their blooming time, was not enough to eliminate the problem. In 1864 and 1865, locusts in Diyarbekir ate half of the crops.[117] However, Harput's bountiful harvest proved sufficient to feed other cities including Diyarbekir.[118]

Extreme Weather: El Niño and La Niña of 1879-1880

After the growth, prosperity, and stability of the 1860s and 1870s, climate disaster struck again in 1879. There was no improvement in the spring, the most critical months for crops.[119] In his despatch dated April 23, 1879, Trotter underlined that no rain had fallen since March.[120] When it came, it was too late for the wheat and barley. In Diyarbekir, Aleppo and Mosul, "wheat and barley crops on un-irrigated land are almost a total

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[116] Sarah D. Shields, *Mosul Before Iraq: Like Bees Making Five-Sided Cells*, SUNY Series in the Social and Economic History of the Middle East (Albany, NY: State University of New York Press, 2000), 131.
[117] TNA: FO 195/889, no. 10, Diyarbekir, April 18, 1867 Taylor to Lyous
[118] TNA: FO 195/889, no. 10, encl. 1, Diyarbekir, April 18, 1867 Taylor to Lyous "Report on the trade and condition of the Vilaiyet of Erzeroom and Eyalets of Harput and Diarbekr, composing consular district of Koordistan, for the year 1866."
[119] TNA: FO 195/1211, no. 20, Diyarbekir, March 16, 1879 Trotter to Mallet; TNA: FO 195/1211, no. 22, Diyarbekir, March 22, 1879 Trotter to Mallet
[120] TNA: FO 195/1211, no. 31, Diyarbekir, April 23, 1879 Trotter to Mallet

failure" and there was "little or no grass."[121] However, in the north around Çapakçur and Erzurum, where the elevation was higher and the growing season later, a week had made all the difference: rain fell in time to assure an abundance of pasture and grass and a fair harvest.[122] The state of harvest in Sivas, an important grain producer in Asia Minor was mixed. The harvest was abundant mainly in the higher lands in the north. Towards the south in some districts locust destroyed almost everything, while in others the deficiency in rain caused a partial failure.[123] These ecological niches prevented mass starvation.

But further south in Baghdad, the Tigris River had lost volume. Indeed it was eight feet lower than its normal seasonal level and compromised irrigation systems.[124] The lack of snow in Asia Minor and Kurdistan during the winter of 1879 and consequently the paucity of runoff in the spring, was the chief cause. The local British Consul Nixon complained about the shallow river and "feared that it will fall so low that steam traffic will have to be suspended.[125] Extremely hot temperatures brought locusts back into neighbourhood of Baghdad.[126] In Kermanshah, a neighbouring region, the authorities prohibited the exportation of grain to Baghdad for fear that supplies would not suffice.

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[121] TNA: FO 195/1211, no. 36, Diyarbekir, May 29, 1879 Trotter to Layard
[122] TNA: FO 195/1211, no. 36, Diyarbekir, May 29, 1879 Trotter to Layard
[123] A&P, Turkey, no.10, (1979), no. 79, encl. 1, Sivas, August 6, 1879 Wilson to Layard
[124] TNA: FO 195/1243, no. 67, Baghdad, June 12, 1879 Nixon to Foreign Office, London
[125] TNA: FO 195/1243, no. 67, Baghdad, June 12, 1879 Nixon to Foreign Office, London
[126] TNA: FO 195/1243, no. 67, Baghdad, June 12, 1879 Nixon to Foreign Office, London

The next winter, the Ottoman East was unseasonably cold. A heavy snowfall blanketed Kurdistan. The road between Erzurum and Çapakçur was completely closed by the middle of November 1879.[127] In Mosul and its surrounding vicinity, the scarcity of food and the severity of the cold aggravated the distress among the poor in the city. Food was already in short supply. Now wheat sold twelve times its ordinary price; barley was sixteen times more expensive.[128] Consul Miles noted that there was a "constant and increasing influx too of starving people." The situation was so extreme that

> both Christian and Moslems have…been selling their children to obtain a few piasters for subsistence while other have abandoned their infants at the doors of mosques and houses.[129]

There was no means of subsistence for Kurds, Arabs, and Nestorians in the mountains and neighbouring villages. A caravan of a thousand camels with wheat from Diyarbekir for Mosul was not distributed to the people. According to a consul, only two hundred camel loads were brought to the market and the rest was likely hidden by the Muslim grain traders who owned the caravan.[130] Possibly as a result of the grain

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[127] TNA: FO 78/3132, no. 1, Diyarbekir, January 7, 1880 Trotter to Salisbury
[128] TNA: FO 195/1308, Mosul, January 19, 1880 Miles to Layard
[129] TNA: FO 195/1308, Mosul, January 19, 1880 Miles to Layard
[130] TNA: FO 195/1308, Mosul, January 19, 1880 Miles to Layard

monopoly that existed there at the time, an order from Constantinople to Diyarbekir to export grain to Mosul had been refused by the *vali*.[131]

Snow covered Diyarbekir for more than forty-five days.[132] The scarcity of food became a pressing concern in the southern and eastern portions of the province. The eight rafts of grain that left Diyarbekir for Mosul after the removal of the prohibition on exports did not reach their destination. According to the consul, two rafts were plundered at Hasankeyf, only a few hours distance to the administrative capital, while the others were stopped at Cezire and the loads were forcibly taken possession albeit paid for at a "fair price."[133] But rural inhabitants were not able to gain access to the grain provided to cities like Harput or Sivas. They were forced to watch grain rafts pass them by on the Tigris as they starved.

By the early spring of 1880, the distress among inhabitants was felt across northern Mesopotamia. In Aleppo, several thousands starving people attacked and ransacked a bakery. This was not the only time the people took to some kind of demonstration. According to the British consul, the governor did all in his power to keep the price of flour low and to pacify the population. But there were many people crying in

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[131] TNA: FO 195/1308, Telegram, Mosul, January 31, 1880 Miles to Ambassador in Constantinople
[132] TNA: FO 78/3132, no. 3, Diyarbekir, February 13, 1880 Trotter to Salisbury
[133] TNA: FO 78/3132, no. 3, Diyarbekir, February 13, 1880 Trotter to Salisbury

front of the governor's palace. In districts such as Deyr-ul Zor, people were dying in large numbers from famine.[134]

In Diyarbekir, permission to export grain from the province increased the shortage of provisions particularly in the more remote, eastern portions of the province. Plundering or holding up rafts with grain by villagers living close to the shores became a common occurrence in those days among the villagers especially in the districts of Beşiri, Behramki, Hasankeyf, and Midyat. In three weeks no more than five or six rafts loaded with grain, out of a total of two hundred rafts, succeeded in reaching Cezire.[135] To protect the shoreline, local officials moved troops from Midyat to Hasankeyf and dispatched two parties of mounted police to patrol the banks of the river in advance of the rafts.[136] With these measures, the rafts went through without problem and reached their destination in Cezire and Mosul. Soldiers, police, and *zaptiye* recovered a considerable amount of plundered grain.[137]

The urgency associated with feeding cities amplified the distress among the rural population. In February 21, 1880 conditions in Mardin and the surrounding villages were extremely grave. An unusually severe weather of January caused a rapid consumption of

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[134] TNA: FO 424/106, no. 127, encl. 1, Aleppo, March 10, 1880 Henderson to Layard
[135] TNA: FO 78/3132, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury
[136] TNA: FO 78/3132, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury
[137] TNA: FO 195/1316, no. 9, Diyarbeir, March 17, 1880 Trotter to Salisbury

the food that remained. In order to buy food even wealthier peasants attempted to sell their houses. In Midyat, the "acorns [were] now finished, the wheat and barley gave out long ago" and some people were surviving on "haws".[138]

With no food in the villages, peasants fled to city in large numbers. By February of 1880, charities were feeding about six hundred individuals per day.[139] In a month, these numbers grew. Now it was not only peasants from villages in the surrounding areas of the city but also inhabitants from Midyat, Cezire, the "desert" [perhaps referring to southern pastures], even from Van and Mosul who began flocking to the city of Diyarbekir. Three thousand impoverished individuals were being fed by charity in Diyarbekir alone.[140] Many came from eastern districts. "[I]n one khan alone there [were] 1,400 strangers, men, women, and children, mostly Kurds and Arabs, in rags and without means of subsistence except a daily dole of biscuits."[141]

In those days, the population in the rural areas was greatly reduced. The number of households in villages decreased. For instance, in Bati village in the district of Midyat, "out of sixty-three protestants thirteen had already emigrated through want, and twenty-four families were preparing to follow, and thirteen only hope, by pinching in every way,

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[138] TNA: FO 78/3132, no. 7, encl. 1, Diyarbekir, March 3, 1880 Trotter to Salisbury dated, Harput, February 21, 1880
[139] TNA: FO 78/3132, no. 3, Diyarbekir, February 13, 1880 Trotter to Salisbury
[140] TNA: FO 78/3132, no. 7, encl. 1, Diyarbekir, March 3, 1880 Trotter to Salisbury
[141] TNA: FO 78/3132, no. 7, encl. 1, Diyarbekir, March 3, 1880 Trotter to Salisbury

to be able to support themselves until the harvest." Peasants, who remained in their native lands, were still living on cotton-seed, wheat, bran, and skin of grapes. Villages in the districts of Midyat, Siird, Cezire, Bohtan, Şırnak, Mardin, Nisibin, and Redvan were in a similar state. Of its regular population of about 30,000, four thousand were destitute in Diyarbekir.[142] Each religious community began to look after their own. Muslim residents of Diyarbekir fed newcomers, mostly Arabs and Kurds, a daily dole of biscuits. Armenians, Jacobites, Protestants, Armenian Catholics, Greek Catholics, and Syrian Catholics provided food to both poor townspeople and to refugees from the countryside. Not all communities were self-sufficient. The small Jewish community was described by Trotter as "very poor and neglected." The British decided to seek external assistance for the Jews, applying to the *Alliance Israelite Universelle* in Paris for help.[143] The funds from *Alliance Israelite of Paris* for Jews of Diyarbekir arrived in May 1880.[144]

There was a great deal of solidarity for the poor. The funding that arrived from Constantinople, which was collected for the poor of Diyarbekir *vilayet*, was distributed throughout all suffering districts by the *vali*. "The principle of distribution was that it was to be for the poor all classes and religious alike."[145] Other townspeople distributed soup

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[142] TNA: FO 78/3132, no. 9, Diyarbekir, March 17, 1880, Trotter to Salisbury
[143] TNA: FO 195/1316, no. 9, Diyarbekir, March 17, 1880, Trotter to Salisbury; FO 424/106, no. 154, encl. 1, 2, Diyarbekir, March 17, 1880
[144] TNA: FO 78/3132, no. 14, Diyarbekir, May 20, 1880 Trotter to Granville
[145] TNA: FO 78/3132, no. 14, Diyarbekir, May 20, 1880 Trotter to Granville

and grain to the poor in the city and in neighbouring villages. Major Trotter emphasized that by the last remittances that he received from the British Embassy and "other sources" was able to send different amounts of wheat to Mardin, Nisibin, Midyat, Siird, Hani, and Derik besides "continuing soup distribution twice a-week to poor Arabs, Kurds, Syrians and Chaldeans" in Diyarbekir.[146]

Famine in the Countryside: Diyarbekir, Erzurum, and Van

The spring did not arrive in 1880.[147] It snowed until the end of March, a time when the plant and fruit orchards need both sufficient rain and sunlight.[148] By April 1880, the supply of grain in Siird, Mardin, and even in Diyarbekir was almost exhausted. Even in Malatya, an important grain producer, the grain market was plundered after a demonstration against the acting Governor and other officials.[149] Disturbances over food supplies took place throughout Kurdistan. In Mardin, for instance, many individuals with money were unable to buy bread while several poorer individuals died in the street from a lack of nourishment. They died on the street of Diyarbekir as well. As the centre of the

[146] TNA: FO 78/3132, no. 13, Diyarbekir, May 3, 1880 Trotter to Salisbury
[147] TNA: FO 195/1316, no. 9, Diyarbekir, March 17, 1880 Trotter to Salisbury
[148] TNA: FO 195/1316, no. 9, Diyarbekir, March 17, 1880 Trotter to Salisbury
[149] For a detail accounts of events in Malatya at that time, see Ertem, "Eating the Last Seed," 87–95.

province, British agents found that the streets were "crowded with hundreds of beggars whose piteous cries and moans both day and night render the lives of the residents a most painful one."[150] The large quantities of grain that were sent from Malatya, Harput, and Sivas to the suffering districts areas of Diyarbekir and Mosul province brought "a temporary cessation from acts of violence." However, it seems that the importation of grain was not enough to reduce prices as usual and wheat was about ten times the average local price during the last few years in the city of Diyarbekir.[151]

Across the countryside the crops ripened late.[152] They were not harvested until late June, almost a month later than the usual time. Furthermore, in many districts, particularly in the southern portion of the country, the harvest was poor due to the severe cold in the winter, as well as the late frost and wind, which uprooted wheat and barley in Mardin and Nisibin.[153] Famine swept across the province. It was estimated that five or six individuals were dying daily because of lack of food. People in Hasankeyf were living on wild thistle (*henshef*).[154]

Farther northeast, in Van, a famine appeared. By the harvest season the price of wheat in the market was three or four times the average price of the previous five years,

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[150] TNA: FO 78/3132, no. 12, Diyarbekir, April 16, 1880 Trotter to Salisbury
[151] TNA: FO 78/3132, no. 13, Diyarbekir, May 3, 1880 Trotter to Salisbury
[152] TNA: FO 195/1316, copy, no. 12, Erzurum, March 16, 1880 Everett to Trotter
[153] TNA: FO 78/3132, no. 13, Diyarbekir, May 3, 1880 Trotter to Salisbury
[154] TNA: FO 78/3132, no. 13, Diyarbekir, May 3, 1880 Trotter to Salisbury

including two years of war (1877-78). It was not only wheat but also barley, which was the principal food for horses in the area, that was extremely difficult to obtain.[155] One hundred forty-four villages were in ruin in various districts of Van province, with the majority of their surviving inhabitants having left for Russian or Persian territory.[156] According to Clayton's informant in retaliation for Kurdish raids on Christian villages, government troops destroyed the Kurdish villages.[157] Those who remained were suffering and on the verge of death.[158] People in the districts of Pasin, Eleşgirt, and Kara Kilise were in desperate conditions and demands for wheat was increasing daily. By November 1879, in the village of Alagöz there was only enough flour to last another ten days. The Armenian Bishop of Başkale stated that four hundred Armenian families left the district for Persia, while the remainder were without food and clothing and lived by going from house to house begging.[159]

By the spring of 1880, the worst period of famine was over in the western portions of Kurdistan. The authorities lifted the prohibition to export grain; large amounts of wheat and barley were dispatched to Siird, Cezire, and Mosul, which brought down the

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[155] TNA: FO 195/1237, no. 1 Van, October 9, 1879, Clayton to Trotter
[156] TNA: FO 195/1237, no. 19, Van, November 7, 1879 Clayton to Trotter
[157] TNA: FO 195/1237, no. 19, Van, November 7, 1879 Clayton to Trotter
[158] TNA: FO 195/1237, no. 23, Van, November 21, 1879 Clayton to Trotter
[159] TNA: FO 424/91, no. 133, encl. 1, Erzurum, November 4, 1879 Everett to Trotter

prices of grain in Mosul.[160] Although the price of wheat was sixteen times higher than its usual price in Diyarbekir, inhabitants were relieved thanks to improved road condition with the melting of the snow. This also meant that local supplies were being drained. According to the British consul, about 4,000 quarters of wheat, which could have supplied the bakeries of Diyarbekir for three months, had been exported to Cezire. Kurdish tribes en route to their summer pastures in the north placed great stress on demand in that region. Grain trafficking employed some of the people who had been displaced during the winter months in the cities; the authorities forced 2,000 of the refugees to return to the countryside from Diyarbekir on the pretext that they presented a threat to public health.[161]

Popular sentiment may have supported the governor's policies of removing refugees. Although there was solidarity among townspeople, it certainly had its limitations. People from every social class had suffered. Despite public and private assistance, many starved in the streets of Ottoman Kurdistan during the spring and winter of 1880 in Mardin and Diyarbekir.

Crop failure and famine in 1879-1880 left peasants without seed, most of which had been consumed over the winter months. Thus, the planting in 1880 fell far short of

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[160] TNA: FO 78/3132, no. 14, Diyarbekir, May 20, 1880 Trotter to Granville
[161] TNA: FO 78/3132, no. 14, Diyarbekir, May 20, 1880 Trotter to Granville

average. In a report dated April 3, 1880, British Lieutenant General and Royal Engineer Herbert Chermside, who travelled the region during the recent famine, stated that great amount of agricultural lands in the province of Mosul, Diyarbekir, and Urfa had not been sown with grain. Leaving Mosul where only about half the ordinary amount of seed had been used, he noted conditions along route:

> approaching Cezireh, and near that place, far less— only one-twentieth; at Nisibin about one-fourth, in many parts of the Midiad district only one-third, Mardin perhaps two-thirds, away east to Urfa about the same, south- west of Urfa half, north of Urfa three-fourths, Birejik Caza two-thirds, and, roughly speaking, for the Aleppo Vilayet, two-thirds, and perhaps for that of Diarbekir rather less. Such are the figures repeated conversations—informants such as Turkish Governors, Baker Pasha, Major Trotter, villagers, &c.—have given me ; can only be every general, but leave no doubt of the fact that an enormous deficit exists in the amount sown as compared to the average.[162]

Further north and east, the state of agriculturalists was not better. For example, in the plain of Pasin, in Erzurum, natives were able to plant only one-fourth of the usual amount of seed.[163] The problem of lack of seed was compounded by the length of the winter. In many places, in place of spring rains came a succession of snow, ice, gales, and rainstorms, which crushed or killed sprouting grain. Frost killed the crops in the lands between Mardin and Diyarbekir.[164]

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[162] TNA: FO 424/106, no. 194, encl. 1, Harput, April 3, 1880 Chermside to Layard
[163] TNA: FO 424/107, no. 143, encl. 1, Tortum Kale, September 7, 1880 Everett to Trotter
[164] TNA: FO 424/106, no. 194, encl. 1, Harput, April 3, 1880 Chermside to Layard

Many assumed that that the harvest would be better than anticipated.[165] In fact in Mosul, where only fifty per cent of the regular amount of seed had been sown, the wheat harvest turned out better than any expectation and people hoped that food prices might fall.[166] In Erzurum an excellent harvest was expected and the result of which "will equal the quantity of grain usually sown."[167]American missionaries, who visited the Eleşgirt Plain, also underlined that "drenching showers" in the middle of June increased people's hope for "an usually large return at harvest for the amount of seed sown."[168] As a matter of fact, in a memorandum dated October 2, 1880, Major Trotter emphasized that "in most parts of the country the harvest has been good," but, he continued, "in very many districts where the famine raged last year, and there was little or no grain sown the scarcity and suffering during the approaching year will be worse than ever."[169] Despite worries in Başkale, Bayezid, and Mardin, in the provinces of Van, Erzurum, and Diyarbekir,[170] the

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[165] TNA: FO 424/107, no. 48, encl. 1, Diyarbekir, June 19, 1880 Barnham to Trotter
[166] TNA: FO 424/107, no. 68, encl. 1, Mosul, June 23, 1880 Russell to Miles
[167] TNA: FO 424/107, no. 17, encl. 1, Erzurum, July 7, 1880 Everett to Trotter
[168] TNA: FO 424/107, no. 17, encl. 1, Erzurum, July 7, 1880 Everett to Trotter "Report of a Tour through the Alashgird Plain, made by Messrs. Parmelee and Chambers, American Missionaries, for the purpose of distributing 35 Erzeroum somars of Wheat (about 420 bushels) to the hungry People."
[169] TNA: FO 424/107, no. 154, encl. 1, 2, Constantinople, October 2, 1880 Trotter to Goschen
[170] TNA: FO 424/107, no. 154, encl. 1, 2, Constantinople, October 2, 1880 Trotter to Goschen

harvest was much better than anyone expected being unusually plentiful in the plains. However, this was not the case in the mountainous areas of Van and Hakkari where it had been extremely cold.[171] Overall, despite some recovery the grain supply again fell short of need and for reserving seed for future planting. In many parts, peasants there could not afford to buy grain or barley because they had "no means left to buy with."[172] Many rural inhabitants had sold everything to survive the previous year including kitchen equipment, beds, carpets, and other furniture.[173]

Anticipating further shortfalls in food, both the British and local charities stocked up on grain and seed.[174] For example, British Imperial Agent of Kurdistan Trotter stated that

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[171] TNA: FO 424/107, no. 207, Van, November 2, 1880 Clayton to Trotter

[172] TNA: FO 424/107, no. 161, encl. 1, Van, September 20, 1880 Clayton to Trotter; TNA: FO 424/107, no. 17, encl. 1, Erzurum, July 7, 1880 Everett to Trotter; FO 424/107, no. 111, encl. 1, 2, Van, August 16, 1880 Clayton to Trotter; FO 424/107, no. 207, Van, November 2, 1880 Clayton to Trotter; FO 424/122, no. 7, encl. 1, Erzurum, December 16, 1880 Everett to Trotter.

[173] TNA: FO 424/107, no. 17, encl. 1, Erzurum, July 7, 1880 Everett to Trotter; FO 424/107, no. 111, encl. 1, 2, Van, August 16, 1880 Clayton to Trotter; FO 424/107, no. 207, Van, November 2, 1880 Clayton to Trotter; FO 424/122, no. 7, encl. 1, Erzurum, December 16, 1880 Everett to Trotter

[174] TNA: FO 424/107, no. 17, encl. 1, Erzurum, July 7, 1880 Everett to Trotter; FO 424/107, no. 111, encl. 1, 2, Van, August 16, 1880 Clayton to Trotter; FO 424/107, no.207, Van, November 2, 1880 Clayton to Trotter; FO 424/122, encl. 1 in no.7, Erzurum, December 16, 1880 Everett to Trotter: "True it is, the scourge of famine has been partially removed by excellent harvest, coupled with the generosity of charitable people in England, America, and Constantinople."

> as soon as the harvest is reaped and the price of grain at what will probably be a minimum, I propose buying a large stock of wheat, both at Van, Diarbekir and Erzeroum, for distribution, partly as food during the approaching winter, partly as seed for the autumn sowings.[175]

The Armenian Relief Committee sent off a large amount of wheat for Armenians of Eleşgirt and Pasin.[176] Sufficient provisions and efforts not only relieved immediate suffering but also brought future relief in all suffering districts. In order to ensure that the seed was being sown, imperial and missionary seed distributers put certain rules that peasant were held to get relief maintenance. According to a despatch dated December 30, 1880, peasants had to give a written promise to the British Imperial Agents that they would return the seed, and "a quantity equal to one-third of the seed after the harvest." The British Consul of Erzurum justified its terms by comparing them with those demanded by the Armenian Relief Committee, which, he noted, demanded that peasants both repay seed and surrender half of their harvest.[177]

By the last quarter of the nineteenth century, the struggle over the use of water and pasture lands throughout Ottoman Kurdistan grew more pronounced. In the district of Başkale, for instance, some Kurdish and Turkish local notables, "who possessed property on the upper portions of the water-courses, selfishly diverted the whole of the water to

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[175] TNA: FO 424/107, no. 79, encl. 1, Erzurum, July 23, 1880 Trotter to Lady Strangford
[176] TNA: FO 424/107, no. 79, encl. 2, Erzurum, August 1, 1880 Trotter to Everett
[177] TNA: FO 424/122, no. 14, encl. 1, Erzurum, December 30, 1880 Everett to Trotter

their own lands and cut it off entirely from the lands lower down."[178] The decline of water in streams owing to deficiency of rainfall and general drought in 1879 played, conceivably, a significant role on the "selfish water" policy of local notables. But withholding water by local notables destroyed the irrigation systems in many agricultural communities.

In different parts of Diyarbekir province, conflict over the using of water resources became more frequent in the 1880s. In district of Hames, a fight occurred between the peasants of Saded and a certain Abdo Ağa, "chief" of the village. Denying common rights to use water was the problem facing villagers during the drought and the subject of legal action. The peasants claimed that

> the water belongs to the village, and in consequence belongs to the inhabitants; but Abdo being an influential personage they did not care to appear before the law to defend their interests. Being conscious of the fury and wrath of Abdo, and the revenge he would take afterwards, they proposed to name an attorney to represent them and to conduct their case, but the Turkish authorities refused to accept such attorney, and asserted that they must appear personally, in default of which the authorities condemned the villagers to pay all damages and costs claimed by Abdo..."[179]

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[178] TNA: FO 424/106, no. 122, encl. 1, Van, February 2, 1880 Clayton to Layard
[179] TNA: FO 424/106, no. 119, encl. 1, Lambeth Palace, March 22, 1880 Canterbury to Salisbury, "*A Selection from among many outrages committed on the Syrian Jacobites during last year*" by Ignatius, Patriarch of Antioch.

Land rights were also questioned. In another case, north of Diyarbekir, the principal representatives of the villages in the district of Kiği, of Erzurum, accused their "chiefs" of taking hold by force common lands of their villages for their personal use. The Armenian peasants involved had protested this situation and took their case to the judge in Erzurum without satisfaction, indeed, the result was that these lords claimed they owed them money. Instead of justice, the peasants claimed that they "have taken by force our pastures, forests, fields, springs of water, and meadows, and they have compelled us to work both Sundays and week-days without payment."[180] At the same time the Ismail Bey of Temran took over the village pastures, woodlands, and water supply, "letting loose his animals upon the cornfields" and taking the forage that they used to gather from distant places to feed their animals.[181]

The struggle over the resources not only pitted local powerholders against villagers, but villagers against newly resettled peasants in the eastern provinces. In another petition, dated April 8, 1880 the peasants of Ishkhane, Seifik, Bingöl, and Tontoja in district of Hafik, of Sivas province, claimed:

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[180] TNA: FO 424/106, no. 261, encl. 1, *Petition* Kiği-Village of Durman, May 20, 1880
[181] A&P, Turkey, no.4 (1880), no. 29, encl. 1, Tarabya, September 9, 1879 Layard to Salisbury

> these refugees have built houses and settled down in this district, and have taken possession of the running stream which flows through that quarter, so that our horses are altogether cut off from their drink and will be destroyed.[182]

Conflicts emerged along confessional lines, with Armenians on one side and Muslim Kurds or Turkish peasants on the other side. The petition of Ardamed villagers, of Van, indicates the roots of struggle between these communities. Carrying crops from the fields and stealing of cattle were the major claims that Armenians accused their Muslim neighbours; an Armenian peasant had been tortured by his neighbours for using the water.[183] These tensions were building long before the next drought struck the region.

Despite the relatively 'normal' conditions of the period between 1881 and 1887 – with the exception of the lack of precipitation in 1882 in Diyarbekir, during the winter – the agrarian regime had been altered. Cotton and sesame production in 1883-84 was approximately 70 per cent less than what it had been in 1873-74. The largest decline recorded was tobacco, which was reduced by more than 80 per cent. Although some of this decline was clearly the result of the drawing of new provincial boundaries, which

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[182] A&P, Turkey, no.6 (1881), no. 114, encl. 5, Tarabya, October 19, 1880 Goschen to Granville, "Petition presented by the Inhabitants of four Villages in the Hafik Caza to the Consulate- General." dated March 27, 1296 [April 8, 1880] "Signed by the poor of the Inhabitant of Seifik, Ishkhane, Bingöl, and Tontoja.) (Translation)

[183] A&P, Turkey, No.23 (1880), no. 6, encl. 2, Van, November 21, 1879 clayton to Trotter (Petition dated Ardamed, November 18, 1879)

excluded some of the most productive agricultural zones such as Harput,[184] fears of shortages of subsistence foods also contributed to the decline in commercial crops. Given their greater need for water, water shortages also discouraged the planting of cotton, tobacco, and sesame in favour of wheat and barley.

Rather than drought, it was locusts that ushered in a new period of food insecurity in Baghdad, Mosul, Aleppo, and Diyarbekir in 1885, returning after a two decade hiatus.[185] In 1885, locusts appeared in Baghdad, Mosul, Harput, and Diyarbekir. In the latter two places they particularly destroyed the cotton crop owing to their late appearance in the summer.[186] Farther south, however, especially in Baghdad, locust swarms ruined almost all of the crops. Peasants in the face of destruction of food and pasture fled their fields and left their animals to die of starvation.[187] On the edges of the

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[184] Harput and Malatya, for example, had been part of the province in 1874-75, but were reconfigured as a new province in 1883-84. Harput was the largest producer of cotton. However, this would not explain the decline of sesame and tobacco since the main producers, Diyarbekir and Mardin, were still important components of the province in 1883-84.

[185] TNA: FO 195/889, no. 10, encl. 1, Diyarbekir, April 18, 1867 Taylor to Lyous "[report] on the Trade and Condition of the Vilaiet of Erzeroom and Eyalets of Kharput and Diarbekr, composing the Consular District of Koordistan, for the Year 1866."

[186] A&P, Turkey, (1885), Commercial no. 22, part. IX., Erzurum, August 22, 1885 "Report by Consul Everett on the Trade and Commerce of the Districts composing the Kurdistan Consulate for 1884."; A&P, Turkey, (1887), no. 36, Erzurum, December 14, 1886 Devey to Iddesleigh, "Report on the Manufacture of Native Cotton Cloths in Erzeroum and some Neighbouring Districts."

[187] BOA, DH.MKT 1334/7, 5 Safer 1298/January 7, 1881; DH.MKT 1440/6, 26 Zilkade 1304/August 16, 1887.

desert, Mardin was one of the most infected areas in Diyarbekir province. In addition to the hatching of the previous years' locust eggs, swarms came up from the regions of Mosul and Baghdad and they travelled in the direction of Siird on the east and the cities of Diyarbekir and Urfa on the west.[188] The accounts of the extent of damage done to the crops were conflicting; some of them reported that locust had not "injured the cereals" while others stated that their ravages was quite considerable and they devoured "everything green" in the country. In order to save their yields from destruction, people gathered unripe barley early but wheat, cotton, vines, and vegetables were left in the fields.

It appears that natives' efforts, which collected 200 *kiles*[189] of the eggs in Mardin, was not enough to save yields owing to continuous swarm of locusts coming up from Mosul.[190] In order to control locusts, the state employed all workers who were working on the construction of roads between Mardin and Diyarbekir.[191] Locusts continued to be an important problem in many districts of Diyarbekir *sancak*. The districts of Beşiri, Turkman, Kiki, Behramki, Şark, and Garb were the most infected areas of the middle

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[188] BOA, DH.MKT, 1357/93, 27 Şevval 1303/July 29, 1886; TNA: FO 424/143, no. 15, encl. 1, Erzurum, June 22, 1886 Devey to E. Thornton
[189] One Mardin *kile* equals to 20.527 kilograms. Halil İnalcık and Donald Quataert, eds., *An Economic and Social History of the Ottoman Empire, 1300-1914* (Cambridge: Cambridge University Press, 1997), 990.
[190] TNA: FO 424/143, no. 15, encl. 1, Erzurum, June 22, 1886 Devey to E. Thornton
[191] BOA, DH.MKT, 1373/108, 24 Muharrem 1304/October 23, 1886

zone.[192] Farther to the south, after the destruction of yields by locusts, many people in the district of Midyat, Cezire, and Avniye abandoned their lands.[193]

Due to the rising prices and shortage of food, provincial Ottoman governors prohibited exportation of grain both in Baghdad and Basra until the harvest of 1886.[194] The restrictions over the exportation of food were reintroduced by the authorities when the price of wheat, barley, and even dates sharply increased. By fall 1886, in addition to prohibition to export food, the Ottoman Central Government issued an *İrade* (Order) cancelling import tariffs for dates and every type of cereals.[195] The cancelation of import tariffs was renewed a few times until the early days of 1888.[196]

For returning peasants to their villages, on the advice of local authorities, the central government postponed the agricultural taxes.[197] However, it seems that rescheduling of the taxes did not satisfy inhabitants of Cezire and therefore they wrote a

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[192] BOA, DH.MKT, 1444/28, 15 Zilhicce 1304/September 4, 1887
[193] BOA, A.}MKT.MHM, 495/20, 15 Eylül 1303/September 27, 1887
[194] BOA, A.}MKT.MHM, 489/30, 9 Recep 1303/April 4, 1886; BOA, MV, 9/9, 6 Recep 1303/April 10, 1886; BOA, A.}MKT.MHM, 490/21, 8 Şaban 1303/May 4, 1886; BOA, MV, 90/9, 5 Şaban 1303/May 9, 1886; BOA, DH.MKT, 1351/81, 19 Ramazan 1303/June 21, 1886.
[195] BOA, DH.MKT, 1372/78, 17 Muharrem 1304/October 16, 1886; BOA, DH.MKT. 1379/116, 24 Safer 1304/November 2, 1886.
[196] BOA, MV, 23/11, 24 Zilkade 1304/August 24, 1887.
[197] BOA, A.}MKT.MHM, 495/20 15 Eylül 1303/September 27, 1887.

petition demanding seed and food allowance.[198] Hundreds of villagers abandoned in the neighbourhood of Diyarbekir left their lands and fled to the city after locusts entirely ruined their crops. According to a document dated May 16, 1888, there were about 1,500 locust refugees in the town and they were panhandling in the streets.[199] To prevent the appearance of typhoid due to very high temperatures in summer, the *vali* of Diyarbekir posted a telegraph to the Porte on May 17, 1888. According to the *vali,* the exact number of locust refugees, including women and children, was 1,467 people. It advised that they should be returned their lands as soon as possible, otherwise if an illness occurred among them, the whole city would be infected.[200] The central government accepted this suggestion of the local authority, and refugees' travel expense, 30 *guruş*, was supplied mainly from *Maliye Sandıkları*.[201]

Locusts seem to be a harbinger of the global 1887-80 El- Niño.[202] Drought swept Ottoman Asia, from Cilicia on the Mediterranean to Kurdistan and Iraq in these years.[203] In the plain of Cilicia, recorded a complete failure of the cotton crop.[204] Thanks to its elevation and perhaps irrigation systems, the plain of Harput managed to bring in a

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[198] BOA, DH.MKT, 1440/6, 4 Agustos 1303/August 16, 1887.
[199] BOA, DH.MKT, 1508/88 4 Mayıs 1304/May 16, 1888.
[200] BOA, A.}MKT.MHM, 497/39, 5 Mayıs 1304/May 17, 1888.
[201] BOA, MV, 32/63, 16 Ramazan 1305/May 27, 1888; A.}MKT.MHM, 497/37, 19 Ramazan 1305/May 30, 1888.
[202] Davis, *Late Victorian Holocausts*, 271.
[203] For implications of drought in Mosul; Shields, *Mosul Before Iraq*, 164.
[204] BOA, DH.MKT, 1417/99, 11 Şaban 1304/May 5, 1887.

normal cotton harvest in 1887.[205] Food supply in Cilicia was also insufficient. According to a document dated April 24, 1887, owing to the great dimension of the drought, many inhabitants were planning to leave the plain. To sustain order during their migration, the Sublime Porte directed local authorities to take necessary precautions.[206]

Unusually heavy rains in the early spring of 1887, which were followed by drought, damaged the harvest in Diyarbekir. In some regions, especially southern and eastern districts, the extent of devastation was extensive. Hundreds of people abandoned their villages in "utter destitution," especially in the districts of Midyat, Beşiri, Kiki, Turkman, and Behramki by the end of the first year of drought.[207] It appears that before this abandonment, peasants from the affected areas presented petitions to the *vali* of the province explaining the extent of their misery and imploring him to advance certain amounts of grain so that they might have seed to sow and survive the winter. However,

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[205] BOA, DH.MKT, 1407/70, 1 Recep 1304/March 26, 1887; MV, 19/60, 2 Şaban 1304/April 26, 1887; DH.MKT, 1416/48, 3 Şaban 1304/Nisan 27, 1887; A&P, Turkey, (1889), no.527, Harput, July 16, 1888 Boyajian to Wratislaw

[206] BOA, DH.MKT, 1415/33, 30 Recep 1304/April 24, 1887; Meltem Toksoz, *Nomads, Migrants and Cotton in the Eastern Mediterenean: The Making of the Adana-Mersin Region, 1850-1908* (Leiden: Brill, 2010), 99.

[207] TNA: FO 195/1617, Confidential, copy, no. 4, Diyarbekir, January 24, 1888 Boyajian to Wratislaw

the petitions were rejected, despite some concern from the Ministry of Interior and an order, which advised postponement of taxes.[208]

The extreme cold and snowfall of the winter of 1888 only increased the misery felt throughout Kurdistan. In Beşiri, many people had nothing to eat while some of them were compelled to sell their furniture, cooking utensils, and the rugs on which they slept in order to purchase a few measures of millet to keep their families from starvation.[209] On the basis of the observations of a merchant who visited the region, hundreds of women, men, and children tried to leave Beşiri on foot for Muş, but after one or two days' journey they were unable to proceed on account of cold, snow, and hunger. Many were compelled to return to their houses and some died on the way.[210]

In Midyat, thousand of individuals had "absolutely nothing to live upon."[211] According to Rev. C. F. Gates, an American Missionary in Mardin who visited twenty-three villages in the neighbourhood of Midyat in an exploratory mission, the poverty of

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[208] TNA: FO 424/145, no. 17, encl. 1, Diyarbekir, February 6, 1888 Boyajian to Wratislaw
[209] TNA: FO 424/145, no. 17, encl. 1, Diyarbekir, February 6, 1888 Boyajian to Wratislaw
[210] TNA: FO 424/145, no. 17, encl. 1, Diyarbekir, February 6, 1888 Boyajian to Wratislaw
[211] TNA: FO 424/145, no. 17, encl. 1, Diyarbekir, February 6, 1888 Boyajian to Wratislaw

the inhabitants was "extreme."[212] Most of them had reached "the last stages of destitution" and had "nothing left for them but starvation." Many had only enough food to suffice for less than a month, and, according to Gates at least 10,000 people were in immediate danger of starvation. The total number of destitute people in other villages lying in the famine belt was between 20,000 and 25,000. They were surviving on straw, grass, roots, and dry figs, which "fell off without ripening" in the summer. People were also fleeing from soldiers who were sent by the local governor to collect taxes. Lacking seed, the outlook for a harvest the next year was quite "gloomy."[213]

Anticipating further problems, Diyarbekir's governor did take precautions to prohibit the exportation of cereals the following winter,[214] although belated rainfall fell in May saved the 1889 crop.[215] It was not drought, but rather a deluge of rainfall that flooded the fields in 1890. According to a telegraph, written by lieutenant governor and also *Defterdar* (treasurer) Muhittin, dated May 27, 1890 to the Ministry of Interior in Istanbul, the rain and in some areas, hail, did not cease and had severely damaged the young crops in every part of Diyarbekir province.[216] In their *mazbata*, an official report,

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[212] TNA: FO 424/145, no. 17, encl. 2, Mardin, January 30, 1888 Rev. C. F. Gates to Boyajian
[213] TNA: FO 424/145, no. 17, encl. 2, Mardin, January 30, 1888 Rev. C. F. Gates to Boyajian
[214] BOA, DH.MKT.1621/109, 6 Ramazan 1306/May 6, 1889.
[215] BOA, DH.MKT.1625/47, 28 Ramazan 1306/May 28, 1889.
[216] BOA, DH.MKT.1740/101, 7 Zilkade 1307/June 25, 1890.

forwarded to authorities in Diyarbekir, dated June 10, 1890, the members of the Administrative Council (*İdare Meclisi*) of Silvan detailed the dimension of destruction there: it surveyed thirty-five villages. The most fortunate had only lost a quarter of their crops, but many had lost half or even all of their plantings at a cost, which was estimated to total approximately 120,000 *guruş*.[217] The impact on the province was immense; Silvan was one of the granaries in the province and its losses affected prices and stores throughout the region.

Crop failure in Silvan due to too much rain and hail-fall occurred just a year before the "very strong" El Niño drought of 1891, which caused famine in China, India, and Brazil. This was one of the destructive El Niño events in the long nineteenth century, affected millions of people over the globe.[218] In addition Diyarbekir and Harput, it affected Mosul and Baghdad in the southeast, and Erzurum in the northeast. Owing to this situation agricultural produce in some places diminished and food prices increased. In order to reduce prices, for example, exportation of grain and every type of cereal was prohibited both in Baghdad and Basra in the autumn of 1891.[219] Due to poorer crops, for

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[217] BOA, DH.MKT.1740/101, 7 Zilkade 1307 /June 25, 1890.
[218] Davis, *Late Victorian Holocausts*, 123–127, 271.
[219] TNA: FO 195/1722, Baghdad, November 14, 1891, *vali* of Baghdad to W. Tweedie (translation)

example, in Harput, the volume of opium and raw cotton decreased, 75 per cent and 10 per cent respectively.[220]

The district of Bulanık and Palu were the most affected areas during the drought in 1891-93. According to petitions presented by natives of Palu and Bulanık to the central government, drought there continued for three years. In addition to crop failure, continuous drought caused the appearance of some insects in the wheat and barley plants. In their telegraph dated August 3, 1893, the *Muhtars* (headman) of Bulanık and Avcı underlined that owing to three years drought in those days a type of insect appeared in their yields; therefore, it would be very difficult for them to supply seed for the next harvest.[221] It seems that the central government did not furnish enough seed to the petitioners. According to a document dated April 21, 1894, drought and locusts caused a scarcity of food in the neighbourhood of Muş and many inhabitants abandoned their lands for Diyarbekir, Mardin, and some other places.[222]

In Palu, the situation was no better than in Bulanık. According to a telegraph dated June 24, 1893, the inhabitants of Palu were fleeing from their lands because of a three year drought and it also indicated that owing to a scarcity of grain, the state should

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[220] A&P, Turkey, (1892), no.1104, Harput, June 15, 1892 Boyajian to R. W. Graves. "Report for the Year 1891 on the Trade of the Kharput Vilayet."
[221] BOA, DH.MKT, 110/44, 1 Agustos 1309/August 13, 1893.
[222] BOA, DH.MKT.388/29073, 9 Nisan 1310/April 21, 1894.

supply grain for food and seed.[223] Just a day after this telegraph, a petition signed by Muslim and Christian inhabitants of Palu, including members of religious authorities, was presented to the Central authority. According to their petition, a three-year continuous drought was explained as the chief cause of poverty. The price of every type of food increased tremendously; even a *şinik*, a unit of weight that was approximately was equal to 3.2 kilograms[224] of millet that was 5 *guruş* before the drought now became 35 *guruş,* as only one fifth of the lands were sown. For three years they successfully supplied themselves by going to the city of Diyarbekir and the town of Siverek for purchasing grain. The extent of poverty could be observed in case of people, who did not have draft animals and thus were forced to carry heavy loads of grain on their backs for 24 to 36 hours to Palu. The petitioners warned about a repeat of the riots that occurred under similar conditions in Malatya: people could not tolerate these conditions any longer and about 500 households had already left their lands.[225]

Natural disasters in general, and drought and locust swarms in particular, were crucial environmental factors that influenced the migration patterns of the inhabitants of the province of Diyarbekir in the nineteenth century. The most destructive disasters were

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[223] BOA, BEO, 227/16968-2, Telgrafnâme, Palu, No.158, 12 Haziran 1309 /June 24, 1893

[224] One *shinik* equals to 3.2 kilograms. İnalcık and Quataert, *An Economic and Social History of the Ottoman Empire, 1300-1914*, 990.

[225] BOA, BEO, 227/16968-2, Telgrafnâme, Palu, no. 158, 12 Haziran 1309/June 24, 1893.

seen in the 1840s, 1879-81, 1887-88, and 1891-93. It appears that peasants who had been completely dependent on agricultural products and did not own livestock were the individuals who suffered the most. The number of rural people suffering was also higher than that of townspeople. The biggest rupture in the history of nineteenth-century western Kurdistan came after 1879, when an almost uninterrupted series of disasters affecting the agrarian economy struck the region. Drought, extreme cold, locusts, and flooding destroyed agricultural production and robbed peasants of food, fodder, and forage necessary to sustain themselves and their animals. Thousands fled their villages and thousands died of starvation. In this way, the 1880s was a breaking point that forever changed the socio-economic structure of Ottoman Kurdistan.

Conclusion

Drought, locusts, and excessive seasonal precipitation (rain, hail, and snow) compromised agriculture in many areas of the east, and throughout the province of Diyarbekir in the nineteenth century. The most destructive episodes coincided with ENSO events of the nineteenth century. While relief followed the disasters of the 1840s from the drought of 1879-81 to 1893 was a period of almost uninterrupted environmental disasters. It appears that peasants who had been completely dependent on agricultural products and did not own livestock were the individuals who suffered the greatest. The number of rural people suffering was also higher than that of townspeople. The biggest

rupture in the history of nineteenth-century western Kurdistan was the drought and starvation of the 1880s, which caused thousands to flee their villages and resulted in hundreds of deaths. In summation, an abnormally dry winter and spring in 1879 caused crop failure and triggered the rise of famine in many areas in the Ottoman East. The principal areas that suffered were the districts of Bayezid, Eleşgirt, and Pasin in the province of Erzurum, and the whole country around Lake Van.[226] Farther south, Mosul and Kirkuk were also gravely affected areas. Famine spread further and wider as it moved farther south and southwest; it extended from Diyarbekir through Mardin, Midyat, Nisibin, Cezire, Siird, Siverek, and pastures on the desert border.[227]

Hundreds of people became refugees of climate and hunger, while hundreds of additional people died. The abandonment of villages and the migration of the masses to the cities are two characteristic features of this period. The cities' communal solidarity and the state support provided made cities attractive for the poor and helpless people. In the 1880s, Kurdistan's villages became deserted. Indeed, in some regions, the number of deserted villages was higher than the number of inhabited ones. In the vicinity of the

[226] For famine in Bayezid, see Ertem, "Eating the Last Seed," 226–45.
[227] TNA: FO 78/3132, no. 7, encl. 1, Diyarbekir, March 3, 1880 Trotter to Salisbury

Bohtan valley, for example, there were "far more deserted villages than inhabited ones, the latter reduced in size, with inhabitants for the most part abjectly poor and squalid."[228]

[228] TNA: FO 424/132, no. 103, encl. 2, Diyarbekir, April 30, 1882 Chermside to Wilson

Chapter 3

"An oft-repeated question . . . is, 'what will the end [of] this be'?": Pastoralists and Herds Face Environmental Crises

In his journey in various parts of Ottoman East in spring 1880 Herbert Chermside reported that "an oft repeated question . . . is, 'what will the end [of] this be'? I confess that it appears to me the end has come."[1] Chermside's report reflects the dire situation of the people in the region and the hopelessness that they expressed. The purpose of this chapter is to examine the significance of herds for pastoralist and peasants, through seeing animals as co-agents in the history of region.

The 1871 report on the state of trade and animal husbandry in the region, prepared by John George Taylor, British Consul-General for Ottoman Kurdistan, ranked sheep farming as the "most important element of industry" and "the second largest item in the local revenue" after its agriculture products. The pastoralists, the report described, are "enriched by the stimulus of foreign capital which is imported directly for the purchase of animals for slaughter, wool, mohair, skins, and butter by Syrian, Egyptian,

[1] TNA: FO 424/132, no. 103, encl. 2, Diyarbekir, April 30, 1880 Chermside to Wilson

Constantinople, and European traders."[2] These observations from the consul underscore the significance of animal products in the regional economy of Ottoman Kurdistan in the nineteenth century. Animal husbandry, the chief occupation of the pastoralists of this region were integral to the agricultural production and were, arguably, more important than the commercial crops in terms of regional and long distance commerce.

Ottoman Kurdistan was not only home to hundreds of thousands of farmers. It was also home to many groups of nomadic and semi-nomadic pastoralists and millions of domesticated animals. This chapter will consider herding groups, whose sheep, goats, cattle, camels, horses, mules, and donkeys were their main source of income and wealth. Thus the objectives of this chapter are: (1) to describe the role of animals in the economy and the different socio-economic groups dependent on them; (2) to assess the impact of drought, severe cold, and repeated abnormal weather conditions on animal function and productivity; (3) to examine the responses of human beings to these climatic circumstances, including different techniques applied by pastoralists to recover their loss of animals, as well as the struggle over natural resources and subsequent rise of conflict.

Climactic factors such as drought, severe cold, and strong winds, have diverse influences on animals. The outcomes of harsh climate on livestock range from weakness to, ultimately, death, and may include impacts on fertility, decreased productivity, and

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[2] TNA: FO 195/939, no. 8, encl. 1, Erzurum, May 5, 1871 Taylor to Elliot "On the Trade and Sheep and Cattle Farming of the Consulate of Koordistan during the Year 1870." dated May 1, 1871.

increased vulnerability to disease. Herds devastated by disease take years to re-establish, meaning that pastoralists dependent on animals for livelihood require a longer recovery period after episodes of environmental crisis than agriculturalists. Drought and severe cold are perhaps the worst climate conditions for livestock, having the most devastating long-term implications. In this chapter, I provide evidence that due to the combined effects of hunger and severe cold, dozens of herds perished in the winter of 1880 in Ottoman Kurdistan. Cattle-rustling and using peasants' farmlands as pasture became one of the dominant means of recovery for herders, who could not afford or did not want to wait for at least a decade to recover their loss of wealth. This means of recovery triggered the emergence of conflict between peasants and pastoralists in the region during the late nineteenth century.

Meanings of Pastoralism

Nomadic pastoralism was a widespread mode of adaptation to the varied geography of the Kurdish regions, stretching from mountainous zones in Erzurum to the arid conditions south of Mardin. In this study, pastoralism refers not to a social organization but an ecological and economic system that included multiple forms of adaptation. Pastoralist tribes possessed various types of animals, and practiced different combinations of herding and agriculture and were dependent to different degrees on cultivation of crops.

The number of studies focusing on the historic pastoralist economy of Arab, Kurdish, Nestorian, Turkoman, and Yezidi tribes remains limited. With the exception of Fariba Zarinabaf's dissertation on Tabriz, and monographs and articles by Sarah Shields and Hala Fattah on Ottoman Iraq, historians of the Ottoman Empire have not given the full dimensionality of the pastoralist economy its due.[3] They have focused on discrete facets of pastoralism such as the political ties between tribes and central government,[4] sedentarization[5] and modernization of tribal authority,[6] as well as plundering and violence especially as a part of the Hamidiye cavalry regiments.[7] This chapter shifts the

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[3] Fariba Zarinebaf, "Tabriz under Ottoman Rule, 1725-1731" (Ph.D., The University of Chicago, 1991); Sarah D. Shields, "Regional Trade and 19th-Century Mosul: Revising the Role of Europe in the Middle East Economy," *International Journal of Middle East Studies* 23, no. 1 (1991): 19–37; Sarah D. Shields, "Sheep, Nomads and Merchants in Nineteenth-Century Mosul: Creating Transformations in an Ottoman Society," *Journal of Social History* 25, no. 4 (1992): 773–89; Hala Fattah, *The Politics of Regional Trade in Iraq, Arabia, and the Gulf 1745-1900* (Albany: State University of New York Press, 1997).

[4] Reşat Kasaba, *A Moveable Empire : Ottoman Nomads, Migrants, and Refugees* (Seattle: University of Washington Press, 2009).

[5] Yonca Köksal, "Coercion and Mediation: Centralization and Sedentarization of Tribes in the Ottoman Empire," *Middle Eastern Studies* 42, no. 3 (2006): 469–91.

[6] Selçuk Akşin Somel, *The Modernization of Public Education in the Ottoman Empire, 1839-1908: Islamization, Autocracy, and Discipline* (Leiden: Brill, 2001).

[7] Stephen Duguid, "The Politics of Unity: Hamidian Policy in Eastern Anatolia," *Middle Eastern Studies* 9, no. 2 (1973): 139–55; Selim Deringil, *The Well-Protected Domains: Ideology and the Legitimation of Power in the Ottoman Empire, 1876-1908* (London: I. B. Tauris, 1998); Janet Klein, "Power in the Periphery: The Hamidiye Light Cavalry and the Struggle over Ottoman Kurdistan, 1890--1914" (Princeton University, 2002); Selim Deringil, "'The Armenian Question Is Finally Closed': Mass Conversions of Armenians in Anatolia during the Hamidian Massacres of 1895–1897," *Comparative Studies in Society and History* 51, no. 2 (2009): 344–71; Bayram Kodaman, "The Hamidiye Light

focus entirely to the primary relationship between people and animals. In examining the dependency of tribes on their herds and the implications of repeated climatic anomalies on livestock and human populations, it addresses a large lacuna in the history of the late Ottoman Empire.

Our attempts to understand the organization and economy of nineteenth century pastoralists requires dependence on sources that were largely unsympathetic to this lifestyle. In contrast to the settled population, rarely did foreign or domestic observers devote time to fully understand the dynamic sociological features of semi-nomadic and transhumant populations. Based on available evidence, the province of Diyarbekir, which remained a crossroad of long-distance migration for many tribes, was home to different forms of pastoralism. Two Arab tribes, the Shammar (Şemr, 10,000 tents) and Tay (500 tents) appear to have been the largest group of purely nomadic herders—that is, populations without fixed houses or residences (*hane ve süknaları olmayıp*). These groups inhabited the southern part of the Diyarbekir province, from the district of Siverek in the west extending to Mosul in the east.[8] The Shammar specialized in camel and sheep breeding and had strong trading networks with villagers and town-dwellers in the

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Cavalry Regiments Abdülhamid II and the Eastern Anatolian Tribes," in *War and Diplomacy: The Russo-Turkish War of 1877-78 and the Treaty of Berlin*, ed. Hakan Yavuz and Peter Sluglett (Salt Lake City: University of Utah Press, 2011); Janet Klein, *The Margins of Empire: Kurdish Militias in the Ottoman Tribal Zone* (Stanford: Stanford University Press, 2011).

[8] *Salname-i Vilayet-i Diyarbekir*, Defa 3, 1288/1871-72.

surrounding area. According to the provincial yearbook of Diyarbekir province, many merchants visited Shammar Arabs in order to purchase sheep, wool, butter, and camels. Although socio-economically there were parallels between these tribes, unlike Shammar, Tay Arabs also cultivated the land to complement their herding.[9]

The Millu/Milli/Milan confederation was one of the largest Kurdish pastoral nomadic groups in Diyarbekir province. This confederation had twenty-five subdivisions (*kabile*), and inhabited the district of Viranşehir, Siverek, and the surrounding area of the Karaca Mountain. They were considered semi-nomadic: they possessed houses and villages to live in during the winter months before traveling to their summer pastures. Lieutenant F. R. Maunsell, who lived in the region for years in order to collect information about physical geography, natural resources, agriculture, peoples and animals, identified sixteen *kabile*s as "semi-nomad" or semi-settled.[10] There were six "nomad" *kabile*s, which were found predominantly in the south and southwest of Viranşehir, as opposed to the *Hoshin*, *Alia*, and *Eumergan* [Ömergan] which were

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[9] *Salname-i Vilayet-i Diyarbekir*, Defa 3, 1288/1871-72.
[10] TNA: WO 33/298, Secret, "*Military Report on Eastern Turkey in Asia: Middle Euphrates Valley (Country From the Gulf of Alexandretta towards Erzerum and Bitlis*)," Compiled for the Intelligence Department of the War Office by Lieut-Colonel F. R. Maunsell, vol. IV (London: Harrison and Sons, 1904), 62-65.

identified as sedentary. Despite diverse forms of adaptation, both tribes specialized in sheep and camel breeding in addition to forms of cultivation.[11]

The Kurdish Şerabi were another semi-nomadic tribe inhabiting both sides of the Habur River. Unlike the Millu Kurds or Tay Arabs, the members of the Şerabi tribe bred large flocks, particularly *camus* (water buffalo), *sığır* (ox), and manda (buffalo). They also settled long enough to cultivate *darı* (millet).[12] Owing to cattle breeding, they produced significant quantities of *revgan-ı sade* (pure butter), which they brought to Siverek and Urfa to sell.[13]

Numerous transhumant Kurdish Muslim and Yezidi tribes migrated annually between the southern plains and the northern pasture lands. Among others, the Hartuşi (Hartoshi) and Miran were the largest transhumant Kurdish confederations, amounting to 12,000 and 7,000 tents respectively in the late nineteenth century. Their preferred summer pastures were Faraşin (Farashin), Meydan-ı tatik and Tüzek Yaylası, on the borders of Nürdüz, in the province of Van; they wintered in the country between Cezire and Mosul.[14] The Miran wintered on the right bank of the Tigris below the district of

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[11] *Salname-i Vilayet-i Diyarbekir*, Defa 3, 1288/1871-72.
[12] *Salname-i Vilayet-i Diyarbekir*, Defa 3, 1288/1871-72.
[13] *Salname-i Vilayet-i Diyarbekir*, Defa 3, 1288/1871-72.
[14] TNA: WO 33/325, Secret, "*Military Report on Eastern Turkey in Asia: The Tigris Valley (Country from Persian Gulf towards Erzerum and Van),"* Compiled for the

Cezire, and "travelled to zozans [high plateau in Kurdish] in Shattakh (Çatak) district including the north slopes of the Halakur Dagh [mountain] and both banks of the Bohtan River" during the summer months.[15] In addition to these large confederations, there were many numerous mid-sized transhumant Kurdish tribes. The Badikan Kurds, who moved between the Kazalı plain and the region of Batman Bridge in the winter months and to Sason and Kulp during the summer, was one of this mid-sized transhumant group. They counted approximately 2,000 tents.[16]

Although some of these groups practiced some forms of agriculture, all of them were dependent on animal husbandry. Sheep, camels, and horses were the major livestock that were bred in herds by Arab and Kurdish tribes. Depending to the environment and climatic conditions some tribes specialized in different animals: for example, the Şerabi Kurds specialized in water buffaloes, ox, and cattle breeding rather than breeding of sheep or camel. Their livestock provided their primary source of food, clothing, housing materials and constituted accumulated wealth. Livestock also provided

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Intelligence Department of the War Office by Lieut.-Colonel F. R. Maunsell, Vol. III (London: Harrison and Sons, 1904), 54-57.

[15] TNA: WO 33/54, Confidential, "*Military Report on Eastern Turkey in Asia,"* Compiled for the Intelligence Divison of the War Office by Captain F. R. Maunsell, Vol. I (London: Harrison and Sons, 1893), 293.

[16] TNA: WO 33/298, Secret, "*Military Report on Eastern Turkey in Asia: Middle Euphrates Valley* (*Country From the Gulf of Alexandretta towards Erzerum and Bitlis*)," Compiled for the Intelligence Department of the War Office by Lieut-Colonel F. R. Maunsell, Vol. IV (London: Harrison and Sons, 1904), 78-79.

them with goods to sell in the market: dairy products, meat, wool, hides, skins, and draft animals. Without their animals these groups would not have been as prosperous, powerful, and rich as they were in the nineteenth century.

Environment and climate determined both what animals were bred as well as the degree to which each tribe was dependent on seasonal movement. Depending on the natural environment and climatic conditions, the dependency of each pastoralist group on migration was different. In this regard, Kurdish tribes had winter quarters on the plains of Cezire and Mosul and the tribes inhabiting the country between Siverek, in the west, and Cezire in the east, had a different rate of dependency on seasonal movement. The first group of pastoralists, including Hartoshi and Miran Kurds, went to the plains of Cezire, Şırnak, Sincar, and Mosul for winter months and while in summer they pastured their flocks in the country around lake Van. The approximate distance between their northern pastures and summer plains was more than 250 miles. However, the Kurdish and Arab tribes that had their pastures in the southern portion of the province did not need to move further up to find better grazing areas. As Captain Callwell noted, “none of them

[members of Millu confederation] migrate far,"[17] as the rich pasture around the Karaca Mountain was their campground for the summer.

Climate Change and Domesticated Animals

This section considers the consequences of drought, cold, and long term environmental change on animal physiology. The impact of severe weather conditions that interrupt normal feeding conditions and abruptly change temperatures on different species of animal varies from lowering reproductive capacity to causing premature death. Sheep, cattle, horses, mules, and donkeys will be considered here, as these were the primary livestock of pastoralists in nineteenth century Ottoman Kurdistan. But an appreciation of the response of these animals to changing climate cannot be understood solely from the historical literature. Instead, I consider modern studies investigating the longer term impact of harsh climate during the twentieth century, primarily during the 1970s. In this section, I will also rely on a discussion of the impact of drought on the lifestyle of pastoralist communities and their herds in northeast Africa to situate and understand comparable circumstances in nineteenth century Ottoman Kurdistan.

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[17] TNA: WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia,"* Compiled in the Intelligence Division of the War Office by Captain C. E. Callwell, vol. II (London: Harrison and Sons, 1892), 232.

Sheep are a flock well-suited to the semi-arid climatic conditions of Diyarbekir province.[18] However, sheep herds are exceptionally vulnerable when it comes to severe cold and abnormal heat, as well as strong wind and rain. Temperatures dropping lower than the sheep's own body temperature can cause disturbances to blood circulation and increased food requirements, while temperatures higher than 30°C trigger respiratory difficulties and subsequently lethargy.[19] Unlike sheep, cattle are able to store energy as fat in order to survive in harsh conditions. On average, however, cattle demand more than 5-6 kilograms of green grass or hay daily, and the provision of a sufficient amount of food in low temperatures (below 0°C) is crucial to their survival.[20] These food requirements meant that cattle were unable to survive in rugged terrain and steppe areas, instead bred in herds only by Şerabi Kurds occupying the rich pastures on both sides of the Habur River. In the case of goats, two breeds were predominant: the Angora breed, which is able to tolerate cold in winter and heavy heat in summer, and the hair-goat, which must be bred in districts where winter temperature is not too low or severe.[21] While the hair-goat is able to survive easily in the hilly, mountainous, and rugged areas,

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[18] Average temperatures are around +21 and +23°C during the hottest month, and around 0 - (-3)°C during the coldest month. See B. C. Yalçın, *Sheep and Goats in Turkey*, 60 (Rome: Food & Agriculture Organization of United Nations, 1986), 4.
[19] Selahattin Batu, *Doğu İlleri Hayvancılığı* (Ankara: Ankara Üniversitesi Veteriner Fakültesi Yayınları, 1953), 45–6.
[20] *Farm Structures in Tropical Climates* (Rome: Food and Agriculture Organization of the United Nations (FAO) and the Information Network on Post-Harvest Operations, 1988).
[21] Batu, *Doğu İlleri Hayvancılığı*, 78–79.

the Angora goat must be bred mainly in flat pastures such as found in the district of Cezire and Midyat.[22]

Western Kurdistan, Iraq, and Arabia were the primary horse-raising areas of the Ottoman Empire. Cavalry horses were bred in herds particularly in the provinces of Damascus, Aleppo, Adana, Baghdad, Mosul, Diyarbekir, Van, Erzurum, and Sivas.[23] According to the 1885 yearbook for Diyarbekir, the finest breeds of horses in the empire were found in the province: Diyarbekir, Mardin, Cezire, and Siverek districts all produced horses.[24] Able to tolerate warm, dry temperatures, horses survived comfortably in a semi-arid environment but failed to thrive in regions with damp, rainy, or high humidity climates.[25]

Unlike horses, mules survive in rugged and hilly geographical environments. They required less food and could carry heavy loads for longer distances than horses.[26] According to British and Ottoman archival sources, the strongest and largest type of

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[22] TNA, FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade of Diarbekr and Koordistan for the Year 1863." dated Diyarbekir, March 31, 1864; *Salname-i Vilayet-i Diyarbekir*, Defa 12, 1302/1885
[23] Hüseyin Binbaşı, *Memalik-I Osmaniye'nin Ziraat Coğrafyası*, 45.
[24] Sâlnâme-i Vilayet-i Diyarbekir, Defa 12, 1302/1885
[25] *Farm Structures in Tropical Climates* (Rome: FAO and the Information Network on Post-Harvest Operations, 1988).; also http://www.fao.org/docrep/s1250e/s1250e10.htm Accessed on March 23, 2015.
[26] TNA: WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia,*" Compiled in the Intelligence Division of the War Office by Captain C. E. Callwell, vol. II (London: Harrison and Sons, 1893), 48.

mules were bred in the district of Cezire and Bohtan.[27] Unlike horses, which were fed predominantly by barley or oats, donkeys can eat a variety of foods including grass, fodder, hay, and vegetables. However they cannot survive in low temperatures or cold.[28]

Although they demanded the more than other animals used for transport, mules were "highly prized," because of their superior characteristics with respect to horses and ponies and the fact that they were able to ride through areas that were impassable for Bactrian camels.[29] Peasants bred donkeys in great numbers in the Hizan valley in the district of Siird. Peasants who used them as pack animal both in their commercial and agricultural activity.[30]

Pastoralists must cope with a degree of variations in annual weather patterns. Indeed, as one scholar of modern pastoralists in the Middle East explains, it kept herds in balance with environmental resources:

> in a series of wet years the flocks, under the encouragement and care of their owners, will rapidly increase in size, for it is axiomatic that a nomad will attempt to expand his flocks to the maximum number permitted by environmental and political conditions. On the other hand, a series of dry years will result in a

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[27] *Sâlnâme-i Vilayet-i Diyarbekir*, Defa 12, 1302/1885
[28] O. Yılmaz and R. Trevor Wilson, "The Domestic Livestock Resources of Turkey: Notes on Donkeys," *The Journal of Animal & Plant Sciences* 23, no. 2 (2013): 653.
[29] TNA, WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia,*" Compiled in the Intelligence Division of the War Office by Captain C. E. Callwell, vol. II (London: Harrison and Sons, 1892), 42; Dickson, "Journeys in Kurdistan," 366
[30] *Sâlnâme-i Vilayet-i Diyarbekir*, Defa 12, 1302/1885; Hüseyin Saraçoğlu, *Doğu Anadolu Bölgesi* (İstanbul: Milli Eğitim Bakanlığı, 1989), 98.

> corresponding decrease in herd size as disease, poor grazing, inadequate water, and debilitation take effect. As a result, the alternation of wet and dry years serves as a natural mechanism to keep the herds, and the nomads living off on them, in balance with their environment.[31]

However, extreme and prolonged changes in weather had an insidious effect on animal reproduction. In general, the reproductive capacity of animals was reduced during a drought period because of lack of sufficient food and water. The early spring is critical for sheep, goats, and cattle to recover their physical condition after the winter.[32] A shortage of grass during this period can trigger the death of new born lambs and weakness among ewes requiring extra food to recover from birth; it can also cause weak animals to continue to lose weight and thus not have the strength to walk to northern pastures.[33]

Conception rates were lowered and pregnant animals had higher incidence of stillbirth and miscarriage due to lower body weight. Examining the impact of a year-long drought on cattle in sub-Saharan Africa, Camilla Toulmin found a sharp decrease in animal births.[34] In their research on the pastoral economy, anthropologists Gudrun Dahl

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[31] Douglas L. Johnson, *The Nature of Nomadism; A Comparative Study of Pastoral Migrations in Northern Africa and Southwestern Asia* (Chicago: University of Chicago Press, 1969), 5.
[32] Walter Spöttel and Kadri Bilgemre, *Türkiye koyunculuğu hakkında etüdler* (Ankara: Yüksek Ziraat Enstitüsü, 1937), 6.
[33] Ibid.
[34] Toulmin, "Livestock Losses and Post-Drought Rehabilitation in Sub-Saharan Africa," 5.

and Anders Hjort argued that even small differences in mortality rates completely change the dynamic of herd reproduction. Drought one year leads to lower calving rates in the following year; this fall in the number of new calves entering the herd is further aggravated by high mortality rates among all young stock.[35]

Besides reproduction, heat stress also impacts animal productivity.[36] For example, evidence suggests that dairy cattle may experience a decline in milk production by as much as 50 per cent when temperatures exceed 32°C.[37] Scarcity of grazing land and decreased body weight corresponds to reduced production of milk, meat, and wool. Weaker animals are also less valuable for carrying goods and pulling loads, and are more susceptible to pathogens.[38] Vulnerability is species-dependent: cattle, horses, and mules, for example, are less able to stand high temperature and malnutrition than are sheep, goats, and camels.[39] Among all breeds, the young, elderly, or pregnant animals are the most vulnerable in time of drought.[40] The high vulnerability of young animals and

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[35] Gudrun Dahl and Anders Hjort, *Having Herds : Pastoral Herd Growth and Household Economy* (Stockholm: Department of Social Anthropology, University of Stockholm, 1976), 21.
[36] Bengtsson and Whitaker, *Farm Structures in Tropical Climates*, Chapter 10. http://www.fao.org/docrep/s1250e/S1250E00.htm#Contents
[37] Ibid.
[38] Blench and Marriage, "Drought and Livestock in Semi-Arid Africa and Southwest Asia."
[39] Toulmin, "Livestock Losses and Post-Drought Rehabilitation in Sub-Saharan Africa," 7.
[40] Ibid.

pregnant females during a drought determines the size of the herd and the quality of animals in the following year. Of course, the impact of water scarcity is cumulative. Its impact is compounded when a drought persists over multiple years.[41]

Severe cold was no less devastating to herds. In his trade report, British Consul Everett explained how winter temperatures and spring rainfall that year had affected animals, particularly sheep and goats, in Erzurum province. He found that:

> snow being still on the ground in the lambing season, the lambs are principally dropped in the spacious and in many cases semi-subterranean stables prepared for them, but notwithstanding the warmth generated by a large number of animals in so confined a place, protracted cold will kill off many lambs. Late in April or early in May the lambs are packed in flocks for exercise, remaining out all day and receiving milk only morning and evening: A month later they remain out during the night. During this period, if the weather is too wet, they become diseased in the legs, while if it is too dry their feet suffer.[42]

While drought had a protracted impact on herds, death was often an immediate consequence of extreme cold. Animals succumbed to hypothermia. Severe cold and snow eliminated all food sources on the ground, resulting in starvation. Sheep, goats, and camels are the most vulnerable livestock breeds at very low temperatures precisely because live outsides. The death rate of sheep and goats averages 25 per cent in years

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[41] Ibid.
[42] A&P, Commercial, no. 33, (1884), "Report by Consul Everett on the Trade and Commerce of some of the Districts comprised in the Consulate Kurdistan for 1883." Dated Erzurum, June 20, 1884

when the winter is severely cold.[43] Cattle are more likely to survive to the extent that have sufficient fodder and are kept indoors. It is not only low temperatures but also the duration of extreme cold that impacts livestock. For instance, in Upper Mesopotamia peasants laid away enough fodder for their animals four months; beyond that their hay or barley ran short.[44] If the winter season continued longer than four months all their livestock was at risk. Only fat-tailed sheep survive without regular food, but only for a finite period of time.[45]

The findings of scientific research on the implications of drought in 1961 in the province of Erzurum and its surrounding area can be taken as an important reference for imagining the potential impacts of drought or drought-related losses in the nineteenth century Ottoman East. According to one study, in comparison to previous years the level of productivity of pastures in 1961 decreased about 60-70%, the fertility of fresh fodder declined between 70-80%, and the decline in cultivated fodder was about 80-90%.[46] All these facts triggered a rise in the scarcity of animal feed in the region.

Each animal breed demands different environmental and climatic conditions to thrive. The composition of livestock herds owned by each pastoralist group helps us

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[43] Spöttel and Bilgemre, *Türkiye koyunculuğu hakkında etüdler*, 5.
[44] Ibid., 7.
[45] Ibid.
[46] Sabri Dilmen, "Yem Kıtlığı Doğu İllerimize Birden Bire Mi Çöktü?," *Ankara Üniversitesi Veteriner Fakültesi Dergisi* 8, no. 4 (1962): 388.

appreciate how abnormal climactic events might have impacted these tribes in different ways. It appears that transhumant Kurdish tribes, who were using eastern and northern pastures and breeding predominantly small flocks, were more vulnerable to climatic anomalies including extreme drought and severe cold. For example, the death rate of sheep and goats owned by Hartoshi and Miran Kurds—residing in the open country between Cezire and Mosul for the winter and moving to areas in Van Lake—was high during the extreme drought in 1879 and frost in 1880. Although primarily impacted by drought through crop failure, the agriculturalists discussed in the previous chapter also owned smaller numbers of animals affected by the food shortages caused by crop failure. While pastoralists are able to move in search of available pastures, the peasant's herds are totally dependent on pastures in the surrounding area of villages. The loss of animals due to food shortage and subsequent susceptibility to disease impacted peasants who relied on these draft animals for ploughing fields and providing manure to improve soil.[47]

Extreme Weather, War, and Recovery at Mid-Century

Having established how conditions of environmental crisis affect different animal populations, we now turn to evidence of the particular conditions of harsh climate in the

[47] For case of Mali in 1984 Toulmin, "Livestock Losses and Post-Drought Rehabilitation in Sub-Saharan Africa," 13.

mid-nineteenth century Ottoman East and the impact felt by pastoralists in the region. As examined in the previous chapter, a series of droughts in the 1840s caused crop failure and a shortage of grass across the Ottoman East. In his journal, the British consul at Trabzon underlined that due to an unusual drought in the summer of 1844 the hot temperatures caused the maize crop to burn, resulting in only half of the average crop being obtained that year. Since maize was an important part of the diet—both human and animal—in the region, the drought brought great misery among the peasantry that year.[48] The distress in 1844 was not only created by shortage of rain, but also locusts, which destroyed the entire crops of cotton, barley, and wheat, as well as fruit trees and every sort of green plant including grass.[49]

In his interview with consul Stevens in June 1844, Bedirhan Bey of Bohtan district communicated that due to locust attacks all their crops and grass were damaged.[50] Although this interview made no references to any implications of locust attacks on herds in the region, it seems reasonable to assume that locusts would have had a calamitous outcome on animals already weakened by drought conditions and shortages of food. This situation of a deficiency of rain and the appearance of locusts reoccurred in the spring of 1847. A shortage of grass in the normally rich grazing lands for millions of sheep in the

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[48] TNA: FO 78/614, Trabzon, December 31, 1844 Stevens to Brant; FO 78/614, no. 4, encl. 1, Erzurum, February 5, 1844 Brant to Ridwell
[49] TNA: FO 195/228, no. 24, Mosul, August 24, 1844 Rassam to Canning
[50] TNA: FO 195/228, Mosul, July 10, 1844 Stevens to Canning

province of Mosul in 1847 meant that Bedouin Arab tribes in the region began to move in search of pastures.[51] As a result of the general drought of the season in 1847, the straw was short and the hay crops were very scarce in the province of Erzurum, where cattle, cows, and oxen were bred in herds and required feeding during the long winter season.[52]

Winter cold came early that year; the consul recorded that he was confined to the house by a severe cold in the city of Erzurum already in the first week of October.[53] Disease broke out among the cattle and sheep made vulnerable by poor nutrition, and continued almost two years.[54] According to Brant, by the winter of 1848 "the loss by epidemic has been serious" and in consequence meat prices rose considerably.[55] Further south, in Mosul, the situation was even more devastating. According to Rassam in 1848: "Immense number of sheep died of diseases and many proprietors lost from one half to two third of their flocks."[56] Although people lost great amount of their wealth owing to this loss of sheep, the local government in the region made no concessions, instead

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[51] TNA: FO 195/301, no. 16, Mosul, April 5, 1847 Rassam to Wellesley; TNA: FO 195/301, no. 18, Mosul, April 17, 1847 Rassam to Wellesley.
[52] TNA: FO 78/703, no. 32, Erzurum September 10, 1847 Brant to Palmerston; FO 195/284, no. 31, Erzurum, September 10, 1847 Brant to Cowley
[53] TNA: FO 195/284, no. 33, Erzurum, October 8, 1847 Brant to Cowley
[54] TNA: FO 78/703, no. 32, Erzurum September 10, 1847 Brant to Palmerston; FO 195/284, no. 31, Erzurum, September 10, 1847 Brant to Cowley
[55] TNA: FO 78/752, no. 9, Erzurum, February 7, 1848 Brant to Palmerston; FO 195/284, no. 6, Erzurum, February 2, 1848 Brant to Cowley; FO 195/284, no. 33, Erzurum, October 8, 1847 Brant to Cowley
[56] TNA: FO 195/301, no. 21, Mosul, February 21, 1848 Rassam to Cowley

demanding pastoralists still pay the sheep tax of about fifty *para* for the death of sheep even under these conditions. It is important to note that at the same time from Diyarbekir to Cezire to Mosul the whole region had been devastated by cholera and "the greatest mortality prevailed" along the banks of the rivers Tigris, Zap, and Hazir, where "thousands of nomads and peasants fled into to dry country to escape the pestilence."[57] Insufficient water in the river basin may also have contributed to the spread of disease among animals. It was not only excessive heat, drought, shortage of food, and disease which caused weakness and death among animals in the region. For instance in August 1848, many Bedouin Arab tribes and their animals in the upper Mesopotamia and desert area died of the *simoom*, an extreme hot wind.[58]

In 1852 the impact of an abnormally long winter season was again felt, as "fodder was scarce on account of the dry season and the prolonged winter has exhausted the stocks" in Erzurum province.[59] In Diyarbekir territory the situation was the same. As a consequence, the Shammar Arabs and their herds in great numbers under Mardin became refugee in the district of Derik.[60] But the impact of the environmental crisis in the eastern empire was exacerbated in these year due to wartime policies. Between 1854 and 1856, the Ottoman government began to requisition pack animals, mainly mules, horses, oxen

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[57] TNA: FO 195/301, no. 5, Mosul, January 20, 1848 Rassam to Cowley
[58] TNA: FO 195/301, no. 33, Mosul, August 21, 1848 Rassam to Canning
[59] TNA: FO 195/353, no. 12, Erzurum, April 13, 1852 Brant to Canning
[60] TNA: FO 195/301, no. 38, Mosul, July 26, 1847 Rassam to Cowley

and cattle, for the war with Russia. The army also requisitioned animals to suppress the rebellion of Yazdân Shîr, who demanded the position of governor of Cezire, Bohtan, and Siird in 1854.[61] Many of the peasants in Diyarbekir and Erzurum province refused to accede to government demands.[62] The inhabitants of Siird, Sason, Eğil, and Midyat, for instance, refused to furnish pack animals or to supply grain for the army; they went so far as to dismiss the *kaymakam* (head official of a district).[63] Besides 5,000 horsemen, the central government also required mules and tons of wheat, barley, rice, and butter from the city of Diyarbekir for the army at Erzurum. According to British Consul Holmes:

> One mule has been demanded from every 45 houses… About eighty mules complete the quota of the city of Diyarbekir, and to facilitate operations money has been taken to the amount of 100,000 piasters, half from the Muslims and half from the Christians, the authorities undertaking to purchase the mules.[64]

However, it seems that it was impossible for local people to meet the requirements of food, draft animals, and services, which were identified by the consul as: "extraordinary, and, considering the quantities required and the means of transport existing, I may add,

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[61] TNA: FO 195/459, no. 6, Diyarbekir, December 11, 1854 Holmes to Canning
[62] TNA: FO 78/797, no. 44, Erzurum, December 6, 1849 Brant to Canning
[63] TNA: FO 195/459, no. 5, Diyarbekir, December 6, 1854 Holmes to Canning; FO 195/459, no. 11, Diyarbekir, March 9, 1857 Holmes to Redcliffe; FO 195/459, no. 21, Diyarbekir, June 10, 1857 Maltass to Redcliffe
[64] TNA: FO 195/459, no. 14, Diyarbekir, March 30, 1855 Holmes to Redcliffe

ridiculous demand."[65] The situation was much more difficult for the owners of draft animals:

> Drafts which cannot be encased, on provincial treasuries, have been given to poor muleteers, to whom money, for their own nourishment and for that their animals, was absolutely necessary. The consequence is, that the Turkish authorities find the greatest difficulties in procuring the means of transport. Muleteers endeavour to sell their animals, or else retire with them out of the reach of government officials. Sometimes even, when on the road with government packages, an opportunity occurring, they have sold their loads and decamped, with their animals; others have abandoned loads, and animals, and everything to escape from further oppression and hard service, for which they see no chance of remuneration… Numbers of muleteers and Cameleers are now leaving, with an intention of not returning until winter again, closes the Erzeroom road. There is a village about 8 hour from Diarbekir inhabited by Turcomans, cameleers who on hearing that the government would require their services and animals, have, I am told fled to the desert, where they are anxiously endeavouring to sell their camels to British Agents."[66]

The loss of animals also occurred during and after the war with refugees from Caucasia being resettled in different provinces. Peasants and tribes were forced by Ottoman government to provide cattle, horses, mules, and oxen in order to transport new immigrants and their baggage. In the province of Diyarbekir, there was enormous loss of cattle owing to over-work in transportation. In just three months in the autumn of 1866 more than 5,000 beasts of burden were reportedly lost by the poor agricultural classes.[67] In order to escape these obligations peasants and nomads began to change their regular

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[65] TNA: FO 195/459, no. 7, Diyarbekir, March 11, 1856 Holmes to Redcliffe
[66] TNA: FO 195/459, no. 7, Diyarbekir, March 11, 1856 Holmes to Redcliffe
[67] TNA: FO 195/799, no. 30, encl. 1, Diyarbekir, December 28, 1866 Taylor to Lyous

pastures, and many peasants built new houses outside of villages to hide their major assets.[68]

Three years of the Crimean War (1853-56) also led to the spread of diseases among animals. High circulation of animals from northern Mesopotamia during the war triggered the spread of cattle disease in almost every eastern district of the empire. In fact, disease originating Kurdistan also reached as far as the Black Sea port of Trabzon.[69] Only slowly did the pastoralist economies of the eastern regions of the Ottoman Empire begin to recover from the combined effects of environmental crisis and wartime expropriation of animals. During these decades, pastoralists and peasants were able to reconstitute their herds and raise new generations of relatively healthy draft animals.

John George Taylor noted that wool prices were marked "an increase of more than 120% in 1863 as compared with 1859."[70] As mohair prices rose, Taylor noted that local herders adapted quickly to foreign demand. Until the early 1860s, mohair was largely valued for its dark colours in the production of *abbas*, *shal*, and other cloths. However,

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[68] TNA: FO 195/799, no. 30, encl. 1, Diyarbekir, December 28, 1866 Taylor to Lyous
[69] A&P, Commercial, no. 11 (1862), "Report by Mr. Stevens, British Consul at Trebizond, on the Trade, &c, of that Pashalick, during the half- year ending 30th June, 1860."
[70] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer

> when it was found that the demands for pure white was far in excess, and at higher rates than for mixed colours, as better suited to foreign trade, they [proprietors of flocks] gradually weeded their animals, and have now succeeded in rearing nearly all of the desired colour. At the period I first speak of, a batman of Jezirah, reckoned at 7 *okes*, but which rarely turned out of 6 ½ – say 18 Ibs – owing to damp and dirt, was easily purchased at 70 piastres (12s. 9d.), now it is eagerly bought up at 2*l*. to 2*l*. 5s per batman. Exports at the same time have increased from 15,000 to 50,000 *batman*s annually – from 1,400 to 8,000 cwt.[71]

The Long Crisis of 1879 to 1893

After decades of prosperity, the ENSO cycles ushered in a decade and a half of crises for the region's pastoral economies. It began with the unusually cold and long winter of 1879-1880. Of course, these unseasonable conditions were first witnessed in the north-eastern provinces, especially in the districts of Eleşğirt, Diyadin, Bayezid, and Karakilise. In a petition dated December 2, 1879, Armenian inhabitants of Karakilise district reported that due to scarcity of fodder and pasture, their cattle were just "falling down" dead.[72] By early spring, peasants in the neighbourhood of Bayezid watched as their livestock succumbed to starvation. In his report of May 11, Lieutenant-Colonel Steward, of the Bengal Staff Corps, described great mortality among the sheep and cattle as people competed with them for grass and wild herbs.[73] In the village of Dahir, inhabited by

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[71] TNA: FO 195/1005, no. 14, Erzurum, November 18, 1872 Taylor to Granville "Report on the past and present condition of British Trade in Koordistan."
[72] TNA: FO 195/1237, no. 5, Erzurum, December 17, 1879 Everett to Trotter
[73] TNA: FO 195/1316, no. 6, Erzurum, June 11, 1880 Everett to Trotter

Kurds, there was no food for the horses. The Armenian villagers of Deli Baba lamented to the loss their 2,000 sheep and cattle since the autumn. Steward remarked that this was no exaggeration, having seen "very great number bodies of animals about the place." The combination of cold and shortfall in fodder, hay and barley, contributed to animal deaths.[74]

Both Ottoman Kurdistan and Iraq had been blanketed with heavy falls of rain and snow that winter. Another British agent reported that: "The snow-fall, almost unprecedented, has been great, and the ground covered with snow for five weeks . . . people . . . are utterly unprepared for this."[75] Severe winds which "tore up roots of crops" and plants were in the southern districts of Nisibin and Mardin.[76]

In a long report, Trotter detailed increasing distress in the eastern and southern part of Diyarbekir province, explaining that the winter was unusually severe and sheep and cattle were dying in "enormous numbers" from the "combined effect of the hunger and cold."[77] Mortality among sheep, cattle, and camels was high, "especially on the borders of the desert." Many villages, as in the district of Siverek, eighteen hours south-

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[74] TNA: FO 195/1316, no. 6, Erzurum, June 11, 1880 Everett to Trotter
[75] TNA: FO 424/106, no. 96, encl. 1, Diyarbekir, February 2, 1880 Chermside to Layard; FO 195/1308, Mosul, January 19, 1880 Miles to Layard.
[76] TNA: FO 78/3132, no. 13, Diyarbekir, May 3, 1880 Trotter to Granville
[77] TNA: FO 78/3132, no. 1, Diyarbekir, January 7, 1880 Trotter to Salisbury

west of Diyarbekir, "lost their whole stock of sheep and nothing remained."[78] The state of herds belonging to the Kurdish and Arab tribes occupying the southern portion of Diyarbekir province was no better than livestock of villagers of Siverek. By the beginning of March 1880, Trotter reported that pastoralists "lost nearly all their flocks through want of the forage and the unusual severity of the winter."[79] In the villages around Diyarbekir, Herbert Chermside noted, "the livestock, commencing with the sheep, has been dying off in thousands; in almost every village one found 12 up to 500 dead animals and few survivors."[80]

Unseasonable cold continued into the early spring of 1880. "Daily heavy falls of rain or snow and very sharp and severe frost at night" meant that herds which managed to survive the long winter season began to perish from cold and hunger in early spring.[81] The fertile pasturages of northern Mesopotamia, from the western end of Diyarbekir province extending to Mosul plain, which provided grass to millions of sheep, goats, cattle, and horses, were covered by snow in March 1880.[82] The devastation was even more significant in the southern portions of the Diyarbekir and Aleppo province, where the Arab and Kurdish tribes lost the greater part of their sheep and camels. In a despatch

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[78] TNA: FO 78/3132, no. 3, Diyarbekir, February 13, 1880, Trotter to Salisbury
[79] TNA: FO 78/3132, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury
[80] TNA: FO 424/106, no. 96, encl. 1, Diyarbekir, February 2, 1880 Chermside to Layard
[81] TNA: FO 195/1316, no. 9, Diyarbekir, March 17, 1880 Trotter to Salisbury
[82] TNA: FO 195/1316, no. 9, Diyarbekir, March 17, 1880 Trotter to Salisbury

dated March 22, 1880, Trotter emphasized that "there will probably be great suffering and mortality amongst them, for another month until the spring crop of truffles (which grow wild in the desert in great quantities) and other roots bring help."[83]

Although we do not know exactly what happened to the herds of these tribes in the following months, a detailed statement about animal mortality in the region of Mosul contains significant information about the state of the animal population in Ottoman Kurdistan after the severe winter of 1880. This survey, submitted by the local British agent to Lord Salisbury in Constantinople, had been prepared by the same Reverend W. Andrews, the American missionary who observed agricultural conditions in his travels between Baghdad and Mosul.[84]

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[83] TNA: FO 195/1316, no. 10, Diyarbekir, March 22, 1880 Trotter to Salisbury
[84] TNA: FO 78/3132, no. 12, Diyarbekir, April 16, 1880 Trotter to Salisbury; FO 424/106, no. 177, encl. 1, dated Mosul, March 30, 1880

Table 3.1. Loss of Animals in Mosul Province (1880)

Place	Number of Houses (Approx.)	Percentage of loss in Sheep	Percentage of loss in Cattle	Percentage of loss in Draught Animals
Devre Zor(?)	Unknown	50%	75%	75%
Nehrwan (?)	150	50%	50%	50%
Kara Tepe	300	75%	90%	66%
Kifri	300	66%	66%	75%
Toz Khornemasl(?)	300	50%	66% of cows	66%
Dohuk	130	66%	75%	66%
Kerkuk	4,500	80%	100%	90%
Altun Köprü	300	50%	75% of cows 90% of buffaloes	95%
Erbil	2,000	66%	90%	95%
Mosul	Unknown	80%	80%	95%

Source: TNA: FO 424/106, no. 177, encl. 1, Diyarbekir, April 16, 1880 Trotter to Salisbury "Tabular Statement on Famine in Mosul District." by Rev. N. Andrus," dated Mosul, March 30, 1880.

As might be anticipated, mortality rates differed appreciably among animal breeds. The highest rates of death occurred among cattle and sheep herds. Given his route of travel and unfamiliarity with pastoralist populations, we might also assume that his figures represent only the deaths of animals belonging to settled populations. He reported

that the impact of severe cold varied between districts and that Mosul, Kerkuk, and Erbil, regions with very high numbers of transhumant pastoralists, were the most affected.[85]

The most striking number presented in the table is that in most locations the population of cattle and draught animals diminished by about 75-90% during the winter of 1880. In areas around the city of Kerkuk peasants lost almost all of their cattle, depriving them of draft animals and fertilizer for the following sowing season. According to Andrews, the conditions of livestock in the country between Mosul and Mardin, including the district of Cezire, Bohtan, Midyat and Nisibin, were as poor as Mosul or Kerkuk: in May 1880, the British agent reported that "more than one-half the sheep, more than one-half the cattle, and more than four-fifths of the horses had perished during the past winter and spring."[86]

North of Diyarbekir, in the provinces of Erzurum and Van, animal the mortality was also very great. In the Pasin district, one of the centres of grain-growing and cattle-breeding, it was calculated that one half of all oxen and 70 per cent of the sheep died.[87] The state of herds among the Cemadanlı Kurds in the Eleşğirt Plain suggests the dimensions of these losses among pastoralists. According to Consul Trotter, this tribe

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[85] TNA: FO 78/3132, no. 12, Diyarbekir, April 16, 1880 Trotter to Salisbury; FO 424/106, no. 177, encl. 1, dated Mosul, March 30, 1880
[86] TNA: FO 78/3132, no. 13, Diyarbekir, May 3, 1880 Trotter to Granville
[87] TNA: FO 195/1316, no. 16, Erzurum, May 21, 1880 Everett to Trotter

tended about 18,000 sheep in the autumn of 1879, despite drought and shortages of food in the region. But after the winter cold, the remaining sheep numbered no more than 200 head.[88]

The loss of draught animals, particularly horses, was also significant in Diyarbekir province. In his report dated April 3, 1880, based on a recent journey in the Ottoman east, Herbert Chermside pointed to the districts of Cezire, Mardin, Siverek, Urfa, and Suruç where the losses of sheep, goats, cattle, horses, and donkeys were tremendously high. Due to the paucity of draught animals from Mosul, Chermside explained, "I came a great part of the way on foot, and as far as Diyarbekir could not get a single post-horse."[89] Of course, the shortage of horses affected all forms of communications and local police. Chermside reported, "in a journey of 300 miles, with *zaptieh* posts about each 20 miles" he counted only six mounts.[90] In the district of Şırnak, the country between Bohtan and Cezire where in 1846 Bedirhan Bey had bred thousands of horses, there remained not a single horse.[91]

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[88] TNA: FO 424/107, no. 79, encl. 1, Erzurum, July 23, 1880 Trotter to Lady Strangford
[89] TNA: FO 424/106, no. 194, encl. 1, in 194, Kharput, April 3, 1880 Chermside to Layard
[90] TNA: FO 424/106, no. 194, encl. 1, Kharput, April 3, 1880 Chermside to Layard
[91] TNA: FO 195/228, no. 4, Mosul, March 9, 1845 Rassam to Canning. According to this despatch Bedirhan Bey owned 2,500 horses and many mules.

Some appreciation of the scale of loss might be gathered from the statistics of animal products compiled for the second half of the nineteenth century. Although we must take into account the changing dimensions of the provinces, many of the main tribal/pastoralists groups remained within the core districts. According to the table below, animal products were greatly reduced. As early as 1874-75, wool, butter and cheese had declined in quantity. In the 1880s, wool, goat-hair, and mohair exports again reduced substantially,[92] while butter was a little over a quarter of what it had been in 1863; tallow and cheese had fallen to less than 10% of 1863 exports.

Table 3.2. Animal Products of Diyarbekir (1856-1909)

Products (tons)	1856	1863	1874-75	1884-85	1909
Wool	441	1000	330	185	5,604
Goat-hair	52	--	212	64	684
Tiftik (mohair)	--	132	432	304	195
Skins (piece)	112,000	--	--	--	289,000
Butter	294	1,506	770	424	--
Tallow	110	1,517cwt	647	125	--
Cheese	--	8,248cwt	1,064	764	--

Sources: TNA: FO 195/459, no. 13, encl. 1, Diyarbekir, April 14, 1857 Holmes to Stratford de Redcliffe "General Report on the Pashalik of Diyarbekir." dated March 31, 1857; FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on Trade of Diarbekr and Kurdistan for the Year 1863," dated, Diyarbekir, March 31, 1864; Salname-i Vilayet-i Diyarbekir, Defa 6, 1291/1874-75; Salname-i Vilayet-i Diyarbekir, Defa 12,

[92] TNA: FO 195/1450, copy, no. 2, Diyarbekir, February 22, 1883 Boyajian to Everett According to Boyjian, the amount of exported wool a few years prior to 1883 was about 4,000 bales, while in 1883 it was about 2,700.

1302/1884-85;Tevfik Güran, *Osmanlı dönemi tarım istatistikleri, 1909, 1913 ve 1914*, III (Ankara: T.C. Başbakanlık Devlet İstatistik Enstitüsü, 1997).

The Ripple Effect of Environmental Crises

Of the two extremes of temperature, historical data suggests that severe, prolonged winter cold can bring about even greater damage to domesticated herd animals than drought conditions. A contemporary study on Mongolia following the cold winter of 2000, when 70 per cent of livestock died, seems to confirm this historical experience:

> *Dzuds* [extreme winter weather] … are more likely to result in mass death of livestock than low growing season rain (droughts) and that livestock mortality is higher in the years of combined drought and *dzuds* than years of *dzuds* alone. This occurs because in drought years, animals do not fatten well enough to overcome a subsequent harsh winter (*dzuds*).[93]

Thus when cold followed drought, the impact was particularly extreme. Drought caused a shortage of foraging grass, thus lowering body fat and depriving animals of an energy reserve. If they experienced a severe winter, animals were even less prepared, revealed the effects that would have been experienced in 1880.[94]

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[93] S. Begzsuren et al., "Livestock Responses to Droughts and Severe Winter Weather in the Gobi Three Beauty National Park, Mongolia," *Journal of Arid Environments* 59, no. 4 (2004): 787.
[94] Ibid.

Environmental stress increased the vulnerability of domesticated animals to disease. By the last quarter of the nineteenth century new strains of cattle disease entered the Ottoman Empire. From the Dardanelles in the west, to Diyarbekir and Erzurum in the east, and to Cilicia to Alexandretta in the south, cattle had been affected. In a dispatch dated September 7, 1883, there had been no cases of disease in the province of Erzurum. However, the dispatch continued the first infected animals appeared within a herd from the west, from Kayseri.[95] Soon after these first animals entered the region, the cattle plague broke out killing large numbers of animals. Although morbidity was generally great, the younger animals were the most vulnerable.[96] Herds had still not recovered from the famine and cold of 1878-1881.

Cattle diseases continued to ravage herds. In a report made September 15, 1887, Consul Devey spoke of an undetermined type of cattle disease that had severely affected herds in Erzurum.[97] Disease was reported among cattle in Diyarbekir a month later. Attributing his information to the British Vice-Consul in Diyarbekir, Consul Wratislaw thought the disease might be pleuropneumonia (perhaps referring to contagious bovine

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[95] TNA: FO 195/1450, no. 1, Erzurum, September 7, 1883 Everett to Wydnham
[96] A&P, Commercial, no. 33 (1884), Part VIII, "Report by Consul Everett on the Trade and Commerce of some of the Districts comprised in the Consulate Kurdistan for 1883." Erzurum June 20, 1884.
[97] TNA: FO 195/1584, no. 26, Erzurum, September 26, 1887 Devey to White

pleuropneumonia). In Diyarbekir, the disease raged until the end of the winter of 1888, and "it was estimated that in a single month 25% of cattle… succumbed to the disease."[98]

In 1887, disease combined with shortages of food due to drought continued to negatively affect domesticated animal populations and the humans dependent on them. In his report on the trade of Diyarbekir in 1887, Vice-Consul Boyajian stressed the fact that the number of sheep and other animals exported that year fell far below – by about 22 per cent – that of 1886. He attributed the cause of this sharp decline to "cattle disease, which was prevalent in the province in the later part of the year." "For the same reason" he added, the exportation of butter declined "considerably."[99] Although Boyajian's report did not specifically mention drought, this was undoubtedly an underlying cause of declines in trade of animals and animal products. In *Mosul Before Iraq,* a study of the influences of drought on Shammar and other pastoralists inhabiting Mosul plain, Sarah Shields argues that a 1887 drought had greatly reduced the available grass sending sheep-herding tribes in a desperate search for food to prevent their herds from starving.[100]

Cattle disease persisted in some parts of Ottoman Kurdistan for years to come. For instance, in April 1889 cattle disease broke out in Harput, Diyarbekir, and Van

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[98] TNA: FO 195/1617, no. 4, Erzurum, January 31 1888 Wratislaw to White
[99] TNA: FO 195/1617, no. 12, Diyarbekir, May 8, 1888 Boyajian to Wratislaw
[100] Shields, *Mosul Before Iraq*, 164.

provinces and "across the frontier in Transcaucasia."[101] During the years of relative health, the size of herds rebounded. In 1890-91 there was an "extraordinary increase" by more than 17 per cent in both the export of livestock from Diyarbekir.[102] However, by August 1893 cattle disease reappeared in the district of Nisibin, especially in the villages surrounding the areas of Elbak and Aznavur.[103] Further northeast, in the mountainous district of Lice, the death of 5,200 cattle between March 1891 to January 1893 was attributed to disease.[104] In the district of Silvan, sheep and other livestock were also affected by disease. According to the local governor, the rate of mortality in Silvan was between 2-3 per cent, and occurred mostly among the livestock belonging to peasants.[105]

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[101] TNA: FO 195/1652, no.15, Erzurum, April 10, 1889 Chermside to White; A&P, Foreign Office Annual Series, no. 527 (1889), Erzurum, April 10, 1889 Chermside to Salisbury "Report on the Trade and Commerce of Erzeroum for the Years 1887-88."; A&P, Turkey, no.1 (1892), no. 30, encl. 2, Van, December 30, 1890, Devey to Lloyd
[102] A&P, Foreign Office Annual Series, no. 1050 (1892), Erzurum, April 16, 1892, Hampson to Salisbury "Report on the Trade of Erzeroum for 1891."
[103] BOA, BEO, 250/18722 20 Muharrem 1311/August 3 1893; DH.MKT, 154/36 11 Rebiülevvel 1311/September 22, 1893
[104] BOA, DH.MKT, 13/16, 22 Zilkade 1310/June 7, 1893; BOA, DH.MKT, 2050/117, 22 Recep 1310/February 9, 1893
[105] BOA, MKT, 13/16, 13 Mayıs 1309/May 25, 1893

Pastoralists' Strategies of Survival

The loss of animals due to disease and environmental crisis in the late nineteenth century affected both pastoralists and agriculturalists in the Ottoman east. However, different levels of dependency on livestock between pastoralist and peasant economies meant that the consequences of drought were felt differently between the two groups. This section will argue that the most significant difference was in a longer recovery time for pastoralists following periods of environmental crisis. In the late nineteenth century, this differential recovery period would have considerable implications for the emergence of struggle in Ottoman Kurdistan.

The loss of cattle due to disease and drought affected both peasants and pastoralists. In a telegraphed petition to the governor general of Diyarbekir in April 30, 1899, peasants complained that they had been forced to sell all their grain stocks, including seed, in order to purchase new draught animals. Now they asked that the government provide them with wheat, barley, and millet seed to sow.[106] For peasants, livestock were a source of food, ploughing power, heating, fertilizer, and fuel. Through their agricultural activities, however, peasants also had additional sources of food, income, and wealth besides animal herds. Thus, for a peasant household the death of several cows, oxen, or sheep was a great loss but did not mean absolute poverty or

[106] BOA, DH.MKT, 2198/51, 26 Zilhicce 1316/May 7, 1899

starvation. Moreover, since their taxation was easier to collect and more regular than that of nomadic populations, government officials tended to pay greater attention to their plight.

The situation for the majority of pastoralists in Kurdistan was different. Pastoralists were absolutely dependent on livestock as a chief source of food, income, and wealth. For this reason, pastoralists applied different techniques and policies either to save their animals or to recover from their loss. Following a drought, herds can take up to ten years to regain their pre-drought reproduction capacity due to depleted numbers and ill-health.[107] Recovery periods vary according to the breed of animals, percentage of loss, and the severity of climate conditions. A goat population, for example, requires eight years to recover from a loss of 70 per cent.[108] Cattle and draught animals have a slower rate of reproduction than do sheep and goats, and thus "take much longer to reconstitute after losses of lesser significance." The estimated number of years to recover varies considerably depending on the percentage of the population that was lost.[109] One model suggests that a cattle herd will require three years to recover from a 20 per cent loss in a cattle herd, 10 years for a 30 per cent loss, 21 years for a 50 per cent loss, and 85 years

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[107] Blench and Marriage, "Drought and Livestock in Semi-Arid Africa and Southwest Asia."
[108] Toulmin, "Livestock Losses and Post-Drought Rehabilitation in Sub-Saharan Africa."
[109] Blench and Marriage, "Drought and Livestock in Semi-Arid Africa and Southwest Asia."

for a 90 per cent loss.[110] These calculations are further complicated by the question of how long harsh environmental conditions persist, with longer periods of crisis requiring longer recovery time and lessening herders' capacity to cope. In a study of pastoralists in Burkina Faso, Thébaud (1998) suggests that some never do rebuild their herds, and simply remain permanently in the agropastoral sector.[111]

What these findings indicate is that in the Ottoman east, pastoralist communities of Kurds, Yezidis, Nestorians, Turks, Armenians, and Arabs needed many years to regenerate their herds after the great losses in the environmental crisis of 1879-80. The next section will consider strategies employed by these groups in their efforts to survive and to rebuild lost animal herds both during and after periods of drought. At risk of losing not only sources of food, but also their primary means of income and wealth, pastoralists made use of diverse means to maintain their herds in the face of episodes of environmental crisis, and to rebuild following devastation. As will be shown, evidence from the late nineteenth century Ottoman Kurdistan suggests that after the great loss of animals under the drought of 1879 and extreme cold of 1880, pastoralist strategies for recovery were stretched to the limit. The outcome was the emergence of conflict between

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[110] G. Tacher, "Notes sur la demographie bovine au Sahel. II. Representation et projection theoriques du troupeau par un modele mathematique apres une catastrophe," *Revue d'Elevage et de Medecine Veterinaire des Pays Tropicaux* 28, no. 4 (1975): 547–69.

[111] Blench and Marriage, "Drought and Livestock in Semi-Arid Africa and Southwest Asia."

different socio-economic groups in the region over limited natural resources including water, land, and animals.

Of course, for pastoralists, movement is the "first and most obvious response" to localized environmental crisis.[112] Migration in search of grazing lands, water resources, and areas of cooler or warmer climate is the most frequent policy of herders in order to save livestock during drought.[113] One consequence of this movement is that usual migration patterns and territorial boundaries constraining tribal mobility break down in times of environmental crisis.[114] During the drought of 1847 across upper Mesopotamia, British observers noted that the Bedouin tribes "became restless" due to a lack of grass in the vicinity of Mosul. Fearing that they would take their starving animals into barley fields to feed them, the local authorities in the region pushed the tribes to a further grazing area in order to save the crops.[115] However, by the summer of 1847, crop failure due to drought meant that outside of mountainous areas almost all the land in this part of the Ottoman Empire became pastures. Villages were deserted and the country was "left

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[112] Ibid.
[113] Douglas L. Johnson, *The Nature of Nomadism; A Comparative Study of Pastoral Migrations in Northern Africa and South-western Asia*, vol. 118 (Chicago: University of Chicago Press, 1969), 7.
[114] Carl R. Raswan, "Tribal Areas and Migration Lines of the North Arabian Bedouins," *Geographical Review* 20, no. 3 (July 1, 1930): 494; Johnson, *The Nature of Nomadism; A Comparative Study of Pastoral Migrations in Northern Africa and Southwestern Asia*, 118:7.
[115] TNA: FO 195/301, no. 18, Mosul, April 17, 1847 Rassam to Wellesley

open to the Arabs."[116] In Diyarbekir, for example, British reports indicated that Shammar Arabs entered the abandoned lands and villages of Derik in order to graze their starving animals.[117]

Drought was not the only factor pushing pastoralists into unusual or marginal lands. The cholera epidemic of 1846-8 caused tensions among herders in upper Mesopotamia, especially those inhabiting the bank of the Tigris River, Hazir, and Zap. Those tribes encamped in the open country between Cezire and Mosul "escaped the contagion."[118] Thus, many tribes left their usual pastures, moving into high, dry lands to save themselves and their animals.[119] In the further north, Tay Arabs left their winter pastures on the Zap River in order to escape the cholera.[120] Hartoshi Kurds also left their winter pastures, located between Zaho and Cezire on the Tigris River.[121] Although distancing themselves from the threat of disease, this unusual movement to less suitable lands would also have had an impact on the fertility and productivity of livestock.

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[116] TNA: FO 195/301, no. 27, Mosul, June 14, 1847 Rassam to Cowley
[117] TNA: FO 195/301, no. 38, Mosul, July 27, 1847 Rassam to Cowley
[118] TNA: FO 195/228, no. 45, Mosul, November 2, 1846 Rassam to Canning
[119] TNA: FO 195/228, no. 45, Mosul, November 2, 1846 Rassam to Canning
[120] TNA: FO 195/301, no. 58, Mosul, November 19, 1847 Rassam to Cowley
[121] TNA: FO 195/301, no. 8, Mosul, February 7, 1848 Rassam to Cowley; for a report on cholera see FO 195/301, no. 5, Mosul, January 20, 1848 Rassam to Cowley

Another response of pastoralists and peasants to fodder shortage was to sell their animals before they died of starvation.[122] Owing to great number of livestock, especially sheep and goats, and scarcity of food, prices declined in local markets in times of environmental crisis. For example, in Urfa in January 1880, "sheep were for sale at 10 and 15 piastres a-piece, and no buyers, as there is no food for them. Forage is at famine prices, and 'saman' or chopped straw a piastre per oke, and often more."[123] Mortality of animals owing to hunger and cold in the following months affirmed no buyers for sheep in Urfa at that time.

Struggles between pastoralists over limited natural resources became more frequent by the second half of the nineteenth century. Conflict between Shammar and 'Aniza tribes in 1857 was caused by competition for the fertile pastures in the southwest of Diyarbekir province. In his despatch dated October 1, 1857, William A. Maltass explained the conflict between these two pastoral-nomadic communities in the following terms:

> The Shammar Arabs having, this summer, three times attacked part of the Annizee tribe, near Orfa and carried of several thousands of their sheep and camels, the whole of the latter, actuated by a desire of revenge and tempted by the superior pasturage on the north-east of the desert, are now advancing to expel

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[122] Toulmin, "Livestock Losses and Post-Drought Rehabilitation in Sub-Saharan Africa," 7.
[123] TNA: FO 424/106, no. 96, encl. 1, Diyarbekir, February 2, 1880 Chermside to Layard P.205

the former and settle there.[124]

Eventually, the Shammar Arabs fled to the neighbourhood of Mosul while the ʻAniza, "whose numerous flocks and herds oblige them, every two or three days, to seek fresh pasturage" moved westward.[125]

Such tensions over resources in the region increased in the 1860s when the Ottoman government began to settle immigrants from Caucasia in various districts of Diyarbekir province including Viranşehir and Ras al-Ayn. Both districts were "principal stations" on the long-distance caravan road between the Mediterranean Sea and Persian Gulf. Ras al-Ayn, situated in the southwest of Mardin, had "very valuable and fertile" lands that were mostly inhabited by Shammar Arabs.[126] According to British official Taylor, the effects of permanent settlement of newcomers in this region—numbering around 3,000 families by January 1867—were destructive in particular for existing agricultural tribes.[127] Taylor warned that this settlement would bring conflict with the local inhabitants of the region, especially with Arab tribes who would not "easily consent to abandon, the rich pasture lands, springs and occupying grounds – they have so long

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[124] TNA: FO 195/459, no. 27, Diyarbekir, October 1, 1857 Maltass to Redcliffe
[125] TNA: FO 195/459, no. 29, Diyarbekir, November 3, 1857 Maltass to Redcliffe
[126] TNA: FO 78/1989, no. 2, Diyarbekir, January 15, 1867 Taylor to Lyous
[127] TNA: FO 195/799, copy, no. 9, Erzurum, May 18, 1866 Taylor to Lyous; FO 195/799, no. 21, Erzurum, July 30, 1866 Taylor to Lyous; FO 78/1989, no. 2, Diyarbekir, January 15, 1867 Taylor to Lyous

usurped."[128] Taylor anticipated that the nomads would make "one desperate, combined effort – aided perhaps by parties from the Anizee – to turn the same settlers out of their lands."[129]

Besides the provision of houses and fertile lands for settlement, the Ottoman government also provided the transportation and basic needs of refugee populations through the use of local resources. In a despatch of January 18, 1867, Taylor indicated that the government had "seized every available animal for the transport of grain and flour to the new Tchetchen Colony."[130] During this same period the cost of transportation in the region increased tremendously owing to the scarcity of animals. Thus, state requirements created a burden that became intolerable for local populations especially during periods of environmental disaster. Evidence suggests that villagers in various districts of Erzurum province were obliged to take care of animals belonging to refugees during the severe cold of the winter of 1880. Compounding the heavy burden this imposed owing to the scarcity of food was the requirement enforced by İskender Bey, the Kaymakam of Hınıs, that "Christians who kept the cattle for refugees during the winter to pay T. £ 1 for every head that has died." This forced compensation, according to the

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[128] TNA: FO 78/1989, no. 2, Diyarbekir, January 15, 1867 Taylor to Lyous
[129] TNA: FO 78/1989, no. 2, Diyarbekir, January 15, 1867 Taylor to Lyous
[130] TNA: FO 195/889, no. 1, Diyarbekir, January 18, 1867 Taylor to Stenley; FO 78/1989, no. 1, Diyarbekir, January 18, 1867 Taylor to Lyous

consul, was "sorely felt by the people in these bad times."[131] The policy of the Ottoman state favouring refugee populations significantly exacerbated regional tensions in periods of limited resources and environmental crisis in the second half of the nineteenth century.

It was not only the Arab tribes and Christian peasants who struggled for pastures in the neighbourhood of Ras al-Ayn, but also Kurdish tribes. This area was the spring camping place of "Adiwan" and 'Aniza tribes, and the hills afforded grazing for thousands of camels, goats, and sheep.[132] Struggle between nomadic groups for access to pasture lands also contributed to regional violence. Conflict between Armenian farmers and Kurdish tribes in the district of Sason and Muş in the summer 1894, for example, resulted from the pastoralists taking over pastures and animals belonging to the villagers. As one report explained:

> For some years past certain of the Bekranli Kurds have adopted as their pasturage ground close to the pasturages belonging, by right of "Tapu," to the inhabitants of Hadavorik, a Protestant Armenian village some two hours distant from Moush. The Kurds having arrived last week, about a company of soldiers were sent to forcibly remove the Armenians from their pasturages, where they already were. These people have now nowhere to feed their flocks, which are considerable.[133]

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[131] TNA: FO 424/106, no. 261, Erzurum, June 12, 1880 Everett to Trotter
[132] TNA: WO 33/54, Confidential, "*Military Report on Eastern Turkey in Asia*," Compiled for the Intelligence division of the War Office by Captain F. R. Maunsell, vol. I (London: Harrison and Sons, 1893), 417.
[133] A&P, Turkey, no. 1 (1895), no. 155, encl. 2, Muş, July 24, 1895, Hampson to Graves

An eyewitness account of events in the summer of 1894 in Sason recorded that "on the way within half-hour from Shenik," one of the villages in which the conflict spread out in the district, "the hay belonging to the village [was] cut and carried off by the Kurds, and the flocks of the latter [fed] on the pastures of the Armenians."[134]

New arrivals to the region participated in both the agricultural and pastoralist economies, for example by breeding horses and sheep. Access to rich pasturages or grazing ground, therefore, became one of major struggling arena for different socio-economic groups in the region. In their petition to the Imperial Commissioners in 1880, the Armenians of Muş reported that the government had taken their lands and animals for use by refugees "from the territories ceded to Russia." Therefore they advised, "the influx of refugees should be stopped."[135]

As indicated, evidence from the late nineteenth and early twentieth centuries reveals that episodes of significant environmental crisis resulted in the movement of pastoralist tribes beyond traditional pastures and migration patterns. Such migration also took place during the period of environmental crisis in the Ottoman east post-1880. However, the intense situation of scarcity—as a result of the combined affects of

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[134] A&P, Turkey, no. 1 (1895), no. 265, encl. 2, Muş, August 5, 1895 Hampson to Graves
[135] FO 195/1315, no. 27, encl. 1, Van, May 26, 1880 Clayton to Trotter

Ottoman-Russian War (1877-79), drought in 1879 and severe cold winter in 1880—meant additionally the rise of animal theft as a phenomenon in the region.

Theft of animals should be understood as "an alternative means by which an individual herder or group of pastoralists can make good their losses relatively quickly."[136] Stealing sheep and cattle was the most common strategy for different socio-economic groups to recover their lost herds in the last two decades of nineteenth century, with thousands of animals stolen across almost all districts of the country. It is important to note that every socio-economic community became part of this story: Kurdish, Arab, and Nestorian tribes as well as Armenian, Kurdish, Turkish, Syrian, and Jacobite peasants resorted to animal theft as a recovery strategy. The following section will depict the commonality of this phenomenon based on examples from the provinces of Diyarbekir, Van, Erzurum, Hakkari, Urfa, and Mosul, and will consider the significant impact for increasing conflict and violence in the region.

In the vicinity of Bayezid, Eleşğirt, and Karakilise of Erzurum province, Zilanlı and Celali tribes were reported to be carrying off horses, cattle, and sheep belonging to villagers in the late 1870s. In a petition dated October 10, 1879, Armenians in the district of Gever, of Van, claimed that their neighbours stole "3,150 sheep and 250 cattle and

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[136] Toulmin, "Livestock Losses and Post-Drought Rehabilitation in Sub-Saharan Africa," 36.

many other things."[137] In an Armenian village near Diyadin, the entire cattle population was reportedly carried away "in broad daylight" by a number of Kurds.[138] The seven oxen of a villager in the city of Van were taken and although the owner claimed that "the robbers were perfectly well known," no action was taken by the local government in response, in spite of several petitions made.[139] From April until July 1880, some twenty villages in districts of Van province were "plundered of the whole or part of their flocks and herds" not only by neighbouring Kurds but also by "Khargin" and Celali tribes.[140] In the same document it is been stated that "oxen which had been distributed to about thirty villagers of Bashkala by the Armenian Charitable Committee were carried off by Kurds" as well.[141]

In the district of Hakkari, the Shikak Kurds—who had lost more than 90 per cent of their herds in the winter of 1880—carried away all the oxen from two Armenian and twelve Kurdish villages, leaving the peasants no animals to work during the harvest

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[137] A&P, Turkey, No.4 (1880), no. 130, encl. 2, Van, November 1, 1879 Clayton to Trotter (petition dated Gever, October 22, 1879).
[138] A&P, Turkey, No.4 (1880), no. 38, Erzurum, September 13, 1879 Trotter to Salisbury
[139] TNA: FO 424/106, no. 152, encl. 4, Van, March 2, 1880 Clayton to Layard
[140] TNA: FO 424/107, no. 131, encl. 1, Van, August 24, 1880 Clayton to Trotter; FO 424/107, no. 136, encl. 1, Constantinople, September 20, 1880 Trotter to Goschen.
[141] TNA: FO 424/107, no. 131, encl. 1, Van, August 24, 1880 Clayton to Trotter

season.[142] While some villagers found relief assistance, such as thirty villagers of Başkale who were supplied by the Armenian Charitable Committee, others were forced to be self-reliant and find their own ways to sustain their livelihood. Enterprising peasants could choose to steal, rent, or buy draft animals, or demand them from the state. After the famine of 1880 the scarcity of animals and poverty of peasants meant that the opportunity to buy or rent draft animals was typically impossible.[143] Therefore the most efficient and effective option was theft.

The state of various districts in the province of Diyarbekir and Harput was similar to Başkale and Gever. In Derik, 45 miles south of Diyarbekir, five hundred sheep were plundered by Kurds from Mazıdağ district while at "Ainschat, five hours from Derik," two hundred sheep were carried away by a group of people from the district of Metinan.[144] In the northeast of Diyarbekir province, the districts of Hazro, Lice, and Farkin (Silvan) were in "complete disorganization" as nomads in surrounding areas plundered newly harvested corn.[145] In Farkin, the Armenian Baron Gragos Hohannesian,

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[142] TNA: FO 424/107, no. 156, encl. 6, September 8, 1880 Clayton to Trotter; A&P, Turkey, no. 6 (1881), no. 110, encl. 3, Van, September 8, 1880 Clayton to Trotter; TNA: FO 424/106, no. 138, encl. 2, Constantinople, October 2, 1880 Trotter to Goschen
[143] BOA, DH.MKT, 2198/51, 26 Zilhicce 1316/ May 7, 1899
[144] TNA: FO 195/1316, no. 12, copy, Diyarbekir, April 16, 1880 Trotter to Salisbury
[145] TNA: FO 195/1316, no. 5, Harput, August 28, 1880 Barnham to Trotter

a Protestant pastor, reported "frequent robberies, chiefly of grain" in the neighbourhood. In Redvan, *zaptiye*s took donkeys by force.[146]

It was not only peasants whose animals were stolen. Some merchants were also robbed of their pack animals and flocks. For instance, in September 1880, part of a Kurdish tribe in Diyarbekir province plundered a group of merchants, "who were passing through the district with a convoy of 12,000 sheep." They carried off two thousand sheep, although later the pasha of Diyarbekir "succeeded in recovering the greater number of the sheep and arrested several of the offenders." In order to compensate the merchants for the loss of 150 missing sheep the pasha ordered that the cattle of the tribe be confiscated and sold as restitution for merchant losses.[147] However, the tables were reversed in the case of Dervish Efendi, an "influential" merchant from Erzurum who dealt in the trade of dried meat (*pastırma)*. In 1892, Dervish Efendi lost a considerable number of cattle in the Malazgirt district of Bitlis province to the Hasananlı tribe.[148]

On the borders of the desert near Diyarbekir, the Milli Kurds, the Karakeçi tribe, and Arabs fought one another in the spring of 1880 after incidents of animal theft and in

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[146] TNA: FO 195/1316, no. 5, Harput, August 28, 1880 Barnham to Trotter; FO 195/1481, no. 3, Erzurum, February 2, 1884 Everett to Dufferin
[147] TNA: FO 195/1316, no. 8, Harput, October 5, 1880 Barnham to Trotter
[148] TNA: FO 195/1766, no. 32, Erzurum, May 28, 1892 Hampson to Ford

competition for limited pastures.[149] In the agricultural lands of the province, crops such as wheat and barley were stolen during the night in addition to animals. In the western part of Diyarbekir, particularly in the neighbourhood of Çermik and Çüngüş, many corn fields were reported as plundered by nomadic Kurds. The flocks and herds of Sinjik, Sheikhla, and Tenikuni villages, also inhabited by Kurds, were carried away by tribes, indicating that theft did not have to do with ethnicity or religion but rather with access to scarce resources.[150] In the fertile and hilly lands of Beşiri district, the Reşkotanlı tribe carried away almost every type of moveable property including sheep, goats, cattle, straw, forage, and *tezek*.[151] In Mardin, Herbert Chermside remarked that oxen and sheep were "open[ly] raided," claiming: "I saw one herd, containing, I was subsequently assured, 3,000 of the latter, being driven off by their captors."[152] Further south, around Kerkuk, Mosul, and Baghdad, the Hamavand Kurds were "extremely active" in raiding during August and September of 1880. At Beledruz, near Baghdad, for example, they plundered 40,000 sheep belonging to Deniyeh Arabs, besides cattle and horses. [153]

Ottoman Kurdistan was in turbulence throughout the 1880s. A list of crimes in Midyat prepared by Boyajian indicates the active role of every social, economic,

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[149] A&P, Turkey, no. 6 (1881), no. 110, encl. 3, Van, September 8, 1880 Clayton to Trotter
[150] TNA: FO 195/1316, no. 7, Harput, September 25, 1880 Barnham to Trotter
[151] TNA: FO 195/1420, no. 2, Diyarbekir, March 16, 1882 Boyajian to Trotter
[152] TNA: FO 424/132, no. 103, encl. 2, Diyarbekir, April 30, 1880 Chermside to Wilson
[153] TNA: FO 424/122, no. 34, encl. 1, Baghdad, December 31, 1880 Plowden to Goschen

religious, and ethnic community in the rise of violence in the region. Inhabitants of all classes and religions were affected by this emerging conflict. For instance, besides two murders, Christians plundered goods and flocks of 'Basebrin' village, while two hundred sheep in the 'Brooki' were stolen by Muslims.[154] In Hakkari, Nestorians attacked two Kurdish villages and carried off all cattle there.[155] By the end of 1880, conflict and animal theft continued in Diyarbekir and Harput, where, "bands of marauders…under the leadership of influential chiefs" continued "committing acts of violence in every description." Cattle and sheep theft were among the most frequently-occurring violent crimes in the region.[156] Boyajian's report described the violence of cattle theft in the same sentence as crimes of murder and rape.

By the late nineteenth century the phenomenon of cattle and sheep rustling increased tensions among the inhabitants of the Ottoman east. In some cases, the result was the loss of many lives. One significant example was the events in the district of Sason in the summer of 1894, which began with animal theft and culminated in the first

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[154] TNA: FO 195/1481, no. 2, Diyarbekir, January 25, 1884 Boyajian to Everett
[155] TNA: FO 424/142, no. 11, encl. 1, Erzurum, January 12, 1885 Everett to Wyndham
[156] TNA: FO 195/1617, no. 4, Diyarbekir, January 24, 1888 Boyajian to Wratislaw

massacre of Armenians in the region.[157] In his memorandum on Sason, Philip Currie reported the following statement of events:

> This is exactly what happened to the villages that district, said to be thirty- two in number, with a population of about 8,000 souls. The Sassoon trouble began by one of those periodical quarrels between Kurds and Armenians which culminated in serious fighting, and in which the Kurds were successfully repulsed. As usual, the latter had plundered their sheep and cattle, which, however, the Armenians succeeded in recapturing. The defeated Kurds finally came down to the Vali of Bitlis and reported that the Sassoon Armenians were in open revolt; whereupon the Vali, without inquiring into the cause of the trouble, is reported to have telegraphed the statement made by the Kurds to Constantinople, asking at the same time for instructions.[158]

According to Currie, animal theft was a major factor triggering violence between Kurds and Armenians in Sason. Further eyewitness statements corroborate Currie's memorandum. İskender Agha, Yüzbaşı of *zaptiye*s in garrison of Muş, claimed that the conflict between the Velikanlı tribe and Armenians inhabiting Shenik, Simal, and Gheliyegozan, emerged when to the later group burned some Kurdish tents, "carrying off

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[157] For Sason massacre, among the others; Hans-Lukas Kieser, *Iskalanmış barış: Doğu Vilayetleri'nde misyonerlik, etnik kimlik ve devlet 1839-1938* (İletişim Yayınları, 2005); Taner Akçam, *A Shameful Act: The Armenian Genocide and the Question of Turkish Responsibility* (New York: Metropolitan Books, 2007); Taner Akçam, *The Young Turks' Crime against Humanity: The Armenian Genocide and Ethnic Cleansing in the Ottoman Empire* (Princeton: Princeton University Press, 2012); Fatma Muge Göcek, *Denial of Violence: Ottoman Past, Turkish Present, and Collective Violence against the Armenians, 1789-2009* (Oxford: Oxford University Press, 2014).

[158] TNA: FO 424/181, no. 40, encl. 1, Constantinople, January 9, 1895, Currie to Kimberley "Memorandum."; A&P, Turkey, No.1 (1895), no. 252, encl. 1, Tarabya, August 15, 1895 Currie to Salisbury "Report of the Consular Delegates attached to the Commission appointed to inquire into the Events at Sasun."

from them lambs and cattle, &c., to the number, approximately, of 150 head."[159] Statements from Erko, "son of Kurki, 58 or 60 years of age, married, the father of a family, a peasant farmer of Shenik," contains further detail concerning the conflict between Armenians and Kurds in the region. According to Erko, an Armenian peasant, "the causes were thefts of three head of cattle stolen by the Velikanli Kurds from the Armenians of Semal, of thirty sheep stolen from the Armenians of Shenik."[160] In addition to animal theft, it seems that some tribes, namely Badikanlı and Bekiranlı Kurds, brought their cattle and grazed on the fields of Armenian villagers, who stayed at "Antok Dagh" for twenty to twenty-four days after their attacks on Velikanlı.[161]

On his journey to Sason Valley almost a year later, Vice-Consul Hampton, of Muş, observed few oxen and cows; not a sheep remained in the village of Simal, where nomads had stolen their flocks in 1894.[162] Perhaps due to the great scarcity of draft animals, the inhabitants of Simal and other villages demanded draught animals from the commissioners. In their petition, the *muhtars* of Simal, Shenik, and Gheliyegozan requested the Commission "to cause certain cattle, which has been stolen from them to be

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[159] A&P, Turkey, no. 1 (1895), Part II. no. 4. —Sitting of January 29, 1895
[160] A&P, Turkey, no. 1 (1895), Part II. no. 7. —Sitting of February 1, 1895
[161] A&P, Turkey, no. 1 (1895), Part II. no. 16. —Sitting of February 12, 1895
[162] A&P, Turkey, no. 1 (1895), Part I. no. 265, encl. 2, Muş, August 5, 1895 Hampson to Graves

restored."[163] In some cases the stolen animals had been recovered by the authorities and were returned to the villagers. According to a statement of "Tone, son of Kesbo, of the ward of eki (Talori)," a local Armenian,

> [until]1894, the people of Talori always paid their taxes to the Government, and even after the attack of 1893 they furnished by way of taxes, seven mules, among which four had been previously restored to them by the authorities, who had got them back from the Kurds.[164]

Conclusion

The loss of livestock during episodes of environmental crisis caused great tension among different socio-economic groups in the Ottoman east in the late nineteenth century. For pastoralists in particular, the loss of herds meant absolute poverty. By the spring of 1880, "Kurds, Arabs, and Nestorians from the mountains and neighbouring villages," had "absolutely no means of subsistence."[165] As I have shown in this chapter, the recovery period required for pastoralists to regain wealth following such environmental conditions and the loss of herds was very long, and significantly longer than the recovery period required by agriculturalists. By all measures, the impact of the climate disaster of 1879-90, which was followed by cattle diseases, proved far more devastating for pastoralists than for peasants. Migration and animal rustling were the only means to recover or

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[163] A&P, Turkey, no. 1 (1895), Part II. no. 4. —Sitting of January 29, 1895
[164] A&P, Turkey, no. 1 (1895), Part II. no. 73.—Sitting of April 23,1895
[165] TNA: FO 195/1308, Mosul, January 19, 1880 Miles to Layard

recoup their herds even as the state attempted to restore stolen animals to peasant taxpayers. Indeed, the state played an increasingly important role in the last quarter of the century in both the town and countryside. State intervention in these environmental crises is the topic of the next and final chapter.

Chapter 4

Tanzimat Policies and Environmental Crises: A Reassessment

After considering the impact of climate change on agriculture and animal husbandry in the province, it is important to consider how and when the Ottoman government intervened in these crises. This chapter examines the application of nineteenth-century governmental reforms in relationship to local administration, agricultural production, finance, and commerce within the region.

The middle decades of the nineteenth century, a period between the major environmental crises that disrupted the economy and society in Diyarbekir coincided with the Tanzimat [the "reordering"], which officially began in 1839 and ended with the proroguing of the Ottoman parliament by Sultan Abdulhamid II (r. 1878-1908) in 1878. Tanzimat policies and institutional changes were aimed at transforming Ottoman institutions into modern forms of government, although it may be argued that reforms had their roots in the eighteenth century.[1] Although far-reaching and innovative, the Tanzimat reforms did not affect every province at the same time; they were staggered in time and space. Indeed, the first new order policies did not really reach the province of Diyarbekir

[1] Salzmann, *Tocqueville in the Ottoman Empire: Rival Paths to Modern State*.

until well after 1845, due to local rebellions, the Crimean War (1853-1856), distance and popular resistance to measures and policies that entailed greater government intrusion in local affairs.

The Tanzimat reforms (1839-1876) involved the modernization of rule: in terms of governance, jurisprudence (civic rights, equality and commercial law), new finance and taxation and the building of infrastructure. The modern state was based on direct individual relationships between political authority and individuals. From the beginning, the Tanzimat promised individuals new rights and fair treatment regardless of economic station or confession. Building an educational system, broad conscription, and cultivating loyalty were designed to create an Ottoman citizenry. At the same, in order to accomplish these goals, reformers needed to break the accumulated social, political, and economic privileges and power of the old regime in the provincial areas.[2] By eliminating intermediary forces and actors and forging direct ties between the central state and society, the Sublime Porte partially succeeded in these goals. State capacity grew appreciably over the century.[3] In doing so, the Ottoman Empire also responded to the challenges of the modern state system and imperialism. In the face of challenges from without, the Ottoman state needed to "reassert sovereign claims over land, persons, and resources within the nineteenth century world order by building its military and civil

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[2] Ibid., 122–172.
[3] Ariel Salzmann, "The Old Regime and the Ottoman Middle East," in *The Ottoman World*, ed. Christine Woodhead (London: Routledge, 2012), 418.

institutions on one side and by fortifying the empire's proto-citizens with basic rights and universal political identity on the other."[4]

Enlisting citizens in governance was also a means of eliminating local actors of the old regime. But given the many layers between state, provincial government, and Ottoman subjects, implementing the new regime by elimination of intermediaries was never fully realized. As a matter of fact, owing to the insufficient number of professional bureaucrats, some groups of the old system, including members of *ulema*, soldiers, revenue contractors, landlords, and elites simply were incorporated into the Tanzimat provincial administration. Many local elites were elected as member of provincial or urban assemblies. In her insightful study of the advisory council of Damascus, Elizabeth Thompson identifies a form of bargaining taking place between the Sublime Porte, Damascene elites, and other influential groups.[5] The autonomy of the decision-making process of the advisory council of Damascus in dealing with the affairs of the city and the province, Thompson argues, was a means of checking the military powers of governors.[6] In a province like Diyarbekir the provincial assembly's decision-making powers was never as strong as the council of Damascus. According to İlber Ortaylı, the governor of

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[4] Ariel Salzmann, "Citizens in Search of a State: The Limits of Political Participation in the Late Ottoman Empire," in *Extending Citizenship, Reconfiguring States*, ed. Charles Tilly and Michael Hanagan (New York: Rowman & Littlefield Publishers, 1999), 45.
[5] Elizabeth Thompson, "Ottoman Political Reform in the Provinces: The Damascus Advisory Council in 1844-45," *International Journal of Middle East Studies* 25 (1993): 457–75.
[6] Ibid., 457.

Diyarbekir continued to take advantage of ethnic and religious diversity and opposition among the members of the provincial assembly in order to dominate local politics on behalf of the central government.[7]

Moreover, in more distant frontier regions, such as Albania, Bosnia-Hercegovina, Kurdistan, and Iraq, removing local elites was a potentially dangerous process. For most of the century, but especially the last decades of the empire's existence, which coincided with some of most persistent and devastating climatic episodes, the empire was at war. In addition to losing many of its provinces in the Balkans to new nation-states in the first half of the nineteenth century, the empire fought wars with Iran (1821-23), and three devastating wars with Tsarist Russia (1828-29, 1853-56, and 1877-78).[8]

Not only did the loss of territories (and their revenues) and post-war indemnities, expenditures, and increasing debt amplify the pressure on the remaining taxpayers of the empire, but in areas like Diyarbekir the effects of frontier conflict were politically destabilizing. Although relations with Qajar Iran improved after the War of 1821-23, the general region of Kurdistan from Van and Erzurum in the north to Cezire and Mardin in the south continued to experience considerable upheaval, as Kurdish leaders vied for local control. Bedirhan Bey (d. 1868), who ended his career in exile in Istanbul and

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[7] İlber Ortaylı, *Tanzimat Devrinde Osmanlı Mahalli Idareleri, 1840-1880* (Ankara: Türk Tarih Kurumu, 2000), 79–80.
[8] Generally, Virginia H. Aksan, *Ottoman Wars 1700-1870: An Empire Besieged* (Harlow: Longman/Pearson, 2007).

Damascus after 1849, was only one of these local leaders contesting the new powers of the Ottoman state.[9] During the Crimea War of 1853-1856 both Russia and the Ottomans enticed local Kurdish leaders in Van, Muş, Diyarbekir (especially the districts of Cezire, Botan, and Mardin) with titles, weapons, and salaries to join the war on their side. After the war, the British actively pressured the Porte to rein in the autonomy of tribal leaders.[10]

Tensions between communities, aggravated by new pressures and the resettlement of refugees, also became a major problem for the state. In addition to the provincial revolts of the 1840s affecting Kurdistan, there were significant upheavals in neighbouring regions, involving Christians (Maronites and Armenians), Druse, and Muslims in Greater Syria. Armenians and Muslims in the Taurus Mountain enclave of Zeitun defied Istanbul's plan to expropriate lands for the resettlement of refugees from the Crimea on their lands; in Van, an uprising of Armenian and Kurdish peasants fought against exploitation.[11] The region of Kurdistan remained volatile. A British Military officer, Captain Fred Burnaby, underlined the acute vulnerability of Ottoman rule. According to Barnaby, if the Russians could conclude an alliance with the Kurds during the war of

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[9] See Ahmet Kardam, *Cizre - Bohtan Beyi Bedirhan: Direniş ve İsyan Yılları*.
[10] Ateş, *The Ottoman-Iranian Borderlands: Making a Boundary, 1843-1914*, 76; Klein, *The Margins of Empire*, 109–110; Badem, *The Ottoman Crimean War*, 363–72.
[11] Louise Nalbandian, *The Armenian Revolutionary Movement: The Development of Armenian Political Parties Through the Nineteenth Century* (Berkeley: University of California Press, 1963), 78–79.

1877-78, they could quickly drive their armies directly south from the Caucasus into Syria.[12] Indeed, in the aftermath of the war the Ottoman Empire was subject to new pressures: the revolt of the Bosnian Muslim landlords against the implementation of the 1858 Land Reform led to the effective annexation of the region by Austria-Hungary because of the terms of the Treaty of Berlin (1878). The Treaty of San Stefano which concluded the Russo-Ottoman War in 1878, and later affirmed by article LXI of the Treaty of Berlin, obliged the Ottoman government to improve conditions "in provinces inhabited by the Armenians to guarantee their security against the Circassians and Kurds" including the province of Diyarbekir and to submit regular reports on progress to the Great Powers.[13]

Given these pressures on the empire generally and the constraints to reform specifically in Diyarbekir and Kurdistan, the Tanzimat reforms produced mixed results. It is little wonder that Suavi Aydin and Jelle Verhejis argue that in Diyarbekir, the Tanzimat reforms were at best confined to the urban centres.[14] However, my research asserts that Tanzimat policies made deeper inroads into the province. Attempts to impose

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[12] Fred Burnaby, *On Horseback Through Asia Minor*, vol. II (London: S. Low, Marston, Searle, & Rivington, 1877), 167.
[13] For the original treaty, see Edward Hertslet, "Preliminary Treaty of Peace between Russia and Turkey. Signed at San Stefano 19 February/3 March 1878 (Translation)", *The Map of Europe by Treaty; which have taken place since the general peace of 1814. With numerous maps and notes, IV (1875-1891)* (London: Her Majesty's Stationery Office, 1891), 2672–2696.
[14] Suavi Aydın and Jelle Verheij, "Confusion in the Cauldron," 44.

Land Reform of 1858, in particular, as well as both central state and local government officials' efforts to help the province's agrarian populations when they suffered the effects of environmental crises in the form of crop failures, food shortages, and locust infestations, did make an impact. Local citizens were involved as well: they petitioned the central governments to make good on their promises of equality and fairness. Hampered by an array of local powers, limited resources, and insufficient capacity, the outcome of these interventions did not always produce the desired results. By the last decades of the century, Diyarbekir witnessed the growing impact of the state, as officials consolidated power in new ways in town and countryside.

The Tanzimat Arrives in Diyarbekir

Although the Tanzimat Rescript was announced throughout the provinces after its promulgation in the Rose Garden (Gülhane) of the palace, the actual implementation of major reforms was not realized in the province of Diyarbekir for several years. Yet in the city itself, important changes were noted. As a result of reorganization of the provincial structure according to the *Vilayet Nizamnamesi*, the province shared responsibilities between *vali, mutasarrif, kaymakam,* and the *Belediye Meclisi* (the provincial council) whose responsibilities included upkeep of the physical infrastructure of the city, such as roadways and sidewalks. Participation in municipal government was opened to both

Muslims and non-Muslims. Candidates who were elected every two years, had to be over 30 years of age and literate in Turkish. By the year 1884-85, about half of the members of Diyarbekir's city council were drawn from the city's Armenian community.[15]

From a more comprehensive perspective, however, the Tanzimat might be said to have arrived in Diyarbekir province in 1869 with the legal and administrative reforms implemented by the provincial governor, Hatunoğlu Kurt İsmail Pasha.[16] This involved creating a number of new judicial and legislative institutions, including a court of appeals (*İstinaf Mahkemesi*) and the provincial council (*Vilayet Meclisi*). The municipality of Diyarbekir and a department of public works (*Nafia Dairesi*) were also created by Ismail Pasha. The city now boasted a telegraph department and a regiment of gendarmerie. Finally, the state began publishing an official newspaper on provincial affairs, in both Ottoman Turkish and Armenian.[17] In addition to Ottoman primary schools, Protestant missionaries operated schools in the city.[18]

Reform of the tax system and ending tax farming were two of the most important objectives of the Tanzimat state and absolutely necessary for securing the fiscal

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[15] Kasım Ertaş, *Osmanlı İmparatorluğu'nda Diyarbakır Ermenileri* (İstanbul: Rağbet Yayınları, 2015), 172–73.
[16] Suavi Aydın and Jelle Verheij, "Confusion in the Cauldron," 43–44.
[17] Ibid.
[18] Kasım Ertaş, *Osmanlı İmparatorluğu'nda Diyarbakır Ermenileri*, 216.

infrastructure of the empire.[19] The intention was to simplify the taxation system and put all fiscal controls under officials appointed by Istanbul. Officially, taxes were unified under the four categories: tithe (*öşr*) on agricultural crops, sheep tax (*ağnam resmi*), *cizye* (the poll tax taken from non-Muslim subjects), and *vergü* (collection of all traditional taxes).[20] In addition to taxation reform, the state ordered new surveys to measure the economic and human capital of the empire. Very detailed property studies (*temettüat* registers) and censuses were undertaken in many provinces of the empire from 1844 onwards in order to determine the distribution of wealth among subjects and their resources.[21] But carrying out these surveys was not easy due to the limited bureaucracy, institutional infrastructure, and socio-political dynamics of each province. Two Ottoman documents from 1845 and 1846, for instance, indicated that due to local insurrections and the Bedirhan Bey (d.1867) revolt during the 1840s in the district of Cezire – Bohtan, the *temettüat* surveys were postponed in Diyarbekir province.[22] In fact, revenue contracting

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[19] Tevfik Güran, *Tanzimat Döneminde Osmanlı Maliyesi: Bütçeler ve Hazine Hesapları, 1841-1861* (Ankara: Türk Tarih Kurumu Basımevi, 1989), 13.
[20] Ibid.
[21] Mübahat Kütükoğlu, "Osmanlı Sosyal ve İktisadi Tarihi Kaynaklarından Temettü Defterleri," *Belleten* 59, no. 225 (1995): 395–413; Tevfik Güran, *19. Yüzyıl Osmanlı Tarımı üzerine Araştırmalar* (İstanbul: Eren, 1998), 13–14.
[22] BOA, İ.MSM, 1992/62, 17 Şevval 1261/October 19, 1845; BOA, MVL, 4/6, 15 Rebiülevvel 1262/March 13, 1846. Also see Nilay Özok-Gündoğan, "Ruling the Periphery, Governing the Land: The Making of the Modern Ottoman State in Kurdistan, 1840–70." *Comparative Studies of South Asia, Africa and the Middle East* 34 (2014): 160-175.

continued in many areas of the province while many peasants continued to pay up to fifteen different types of taxes for decades.[23]

Rural areas proved thus more resistant to reform. Yet citizens demanded their rights. In addition to Muslim peasants, Armenians living in the city of Diyarbekir and in the province who had ties with the Istanbulite and international Armenian communities brought pressures to bear on the state and demanded the Tanzimat's promise of equal rights and tax reform. Peasants forwarded petitions concerning shortages of seed or draft animals, land disputes, corruption, violence, and unfairness of local governors, expressing their expectations of the new regime.[24] In 1864, the peasants and townspeople of Muş sent a delegation to Istanbul.[25] Examining the petitions forwarded to the Porte via the Armenian Patriarch in Constantinople as well as the *takrir*s, the official reports that were submitted to the Ottoman government, Masayuki Ueno points to many examples of how the non-Muslims negotiated the Tanzimat reforms. The province of Diyarbekir figured prominently among the regions that produced such petitions and inquiries between 1849 and 1869. The 158 *takrir*s or reports documented violence, corruption,

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[23] Arsen Yarman, *Palu-Harput 1878: Çarsancak, Çemişgezek, Çapakçur, Erzincan, Hizan ve Civar Bögeler*, vol. II (İstanbul: Derlem Yayınları, 2010), 45.
[24] N. Özok-Gündogan, "The Making of the Modern Ottoman State in the Kurdish Periphery: The Politics of Land and Taxation, 1840-1870" (State University of New York at Binghamton, 2011).
[25] Nalbandian, *The Armenian Revolutionary Movement*, 79.

unfair behaviour of local authorities, conscription, and over-taxation.[26] By using the language and ideals of the Tanzimat state, petitioners attempted to articulate their problems and find a solution for them.

Perhaps the most ambitious program of the Tanzimat was that of land reform. The 1858 Land Code that promised peasants title to their lands has been one of the most studied aspects of the Tanzimat. Rather than summarize the literature on this subject, one may consider the findings of two of the foremost scholars in the field. In his well known discussion of land tenure in the Middle Eastern provinces, Haim Gerber argued that the 1858 Land Code should be viewed as a continuation of the old agrarian law of the empire with a few important modifications. He saw this continuity in terms of the centrality of the village community that remained "a very meaningful legal and political institution" throughout the nineteenth century.[27] Reformers hoped that by giving title to small farmers they would stabilize the land regime and undercut more powerful individuals and groups such as urban notables, tribal leaders, or religious sheiks, which had usurped rights to land, produce, and labour. Overall, in Syria, Palestine, and Anatolia, these policies were successful. The vast majority of peasants gained *tapu*, or title, to their lands.[28] On the other side, focusing on land disputes between cultivators and estate holders in Yanya

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[26] Masayuki Ueno, "'For the Fatherland and the State': Armenians Negotiate the Tanzimat Reforms," *International Journal of Middle East Studies* 45, no. 1 (2013): 100.
[27] Haim Gerber, *The Social Origins of the Modern Middle East* (Lynne Rienner Publishers, 1987), 69.
[28] Ibid., 68–72.

(Albania), Huri İslamoğlu underlined that the process of land registration did not always go as intended. No less an official than Ahmet Cevdet Pasha (scholar, religious lawyer, and one of the principal drafters of the *Mecelle,* the comprehensive Legal Code of 1875) was forced to make concessions to local authorities. Without such a partnership with local elites in consideration of local conditions, he admitted, "the population in these areas would rise up in arms."[29]

In Diyarbekir, such obstacles abounded. Armenian peasants living in rural areas complained about the means and process by which the new Tanzimat taxes were assessed and collected.[30] As Nadir Özbek points out, the tax situation in the Kurdish provinces was especially complicated.[31]

> In the Armenian and Kurdish provinces, records show numerous abuses of this sort. For one thing, the peasants there were now made responsible for a "special tax" (vergi-i mahsusa) paid to government agents, muhtars (village headmen), tax collectors, and the gendarmerie, while they continued to pay out customary taxes to local notables, mostly Kurdish tribal leaders, as well as the tithe to tax farmers. The tax farmer and the notable were often the same person. Accordingly, peasants were now subject to ill treatment at the hands of not only Kurdish notables and tribal leaders, as had long been true, but also Ottoman provincial administrators and security forces in the form of the gendarmerie or government tax collectors.

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[29] Huri İslamoğlu, "Property as a Contested Domain: A Reevaluation of the Ottoman Land Code of 1858," in *New Perspectives on Property and Land in the Middle East*, ed. Roger Owen (Cambridge: Harvard University Press, 2001), 37.
[30] Ueno, "'For the Fatherland and the State': Armenians Negotiate the Tanzimat Reforms," 100.
[31] Nadir Özbek, "The Politics of Taxation and the 'Armenian Question' during the Late Ottoman Empire, 1876–1908," *Comparative Studies in Society and History* 54, no. 04 (2012): 770–97.

Despite such general statements about the impact of the Tanzimat on the land regime in Kurdistan, there has been little research on the subject. Documents from Ottoman and British archives do indicate that despite the intent to abolish it, revenue-contracting persisted late into the nineteenth century.[32] Several factors determined the nature of labour conditions in the province of Diyarbekir, as well as the potential for farmers to obtain titles to their lands. In his report dated March 31, 1864, the British Consul George Taylor described the different forms of labour contracts between landowners and agricultural labourers or cultivators. Taylor contrasted relations in the district of Cezire and Nusaybin with the Silvan, Behramki, Beşiri, and Redvan. He attributed these differences to the distance between these locations and the capital of the province and as well as to their relative population density, climate, elevation, water resources, scale of land under the cultivation, and types of crops.[33] In the district of Cezire, a part of Mardin, for example, he noted variations on the standard *murab'a* [share-croppers] system.[34] In one form, the labourer received one third of the profit, after expenses and tithes, while the landlord received two thirds. Another type of contract

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[32] Ariel Salzmann, "An Ancien Regime Revisited: Privatization and Political Economy in the 18th Century Ottoman Empire," *Politics and Society* 21, no. 4 (1993): 393–423.
[33] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade of Diarbekr and Koordistan for the Year 1863." dated Diyarbekir, March 31, 1864
[34] Huri İslamoğlu-İnan, *State and Peasant in the Ottoman Empire: Agrarian Power Relations and Regional Economic Development in Ottoman Anatolia During the Sixteenth Century* (Leiden: Brill, 1994).

involved capitalists in the town who loaned seed to the peasants who paid back the loan at a set rate at the time of the harvest. However, in Silvan, Behramki, and other districts nearer to trading centres, greater demand and the higher wages gave the peasants and tenants more leverage. In this case, labourers received food and shoes instead of wages from the landlord, and were permitted to sow a portion of the crop for their own use. Owing to "dearer labour," high tax, and an "unfavourable" soil and water system, lentil, rice, tobacco, and sesame were not cultivated in the those districts.[35]

Labour relations also varied depending on the type of crop sown. It appears that there were more actors involved in the cultivation of commercial agricultural crops, such as cotton and tobacco, which demanded irrigation and intensive labour. With respect to cotton cultivation, a British observer noted that the capitalist would provide seed. Different groups of labourers were hired for each stage of cultivation: sowing, tending, and harvesting. Women and children were hired to weed the crops and reap the cotton bolls. By the harvest time the landowners and water providers received 14 per cent of the net produce of the crops and the rest, after deduction of expenses, was shared by seed providers, labourers, and gardeners.[36]

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[35] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade of Diarbekr and Koordistan for the Year 1863." dated Diyarbekir, March 31, 1864

[36] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade of Diarbekr and Koordistan for the Year 1863." dated Diyarbekir, March 31, 1864

In many areas, the existence of multiple agents, peasants, tribes, rural and urban notables, and Muslim immigrants, discouraged reforms. But some populations did manage to assert property rights over smaller plots of land; the state made it a point to provide land deeds to Circassian and Chechen immigrants who had been settled in Res al-Ayn and Viranşehir. Diyarbekir had unique features. Given the ecological and socio-political differences, it is not possible to extrapolate from the experience of other areas of Kurdistan and Iraq, such as in Mosul, Sulahmaniyah, Kerkuk, and Baghdad, where great quantities of land would be registered in the name of tribal leaders, religious sheiks, and urban-rural-notables after 1869.[37] That does not mean that in some areas of the province, hereditary control over land passed into the hands of the most powerful. In a petition dated February 1912, it was reported that Ibrahim Pasha, the head of Milli Tribe of Viranşehir, had not only acquired lands in the surrounding area of Viransehir and some parts of Zor Sandjak in his own name but had begun registering lands in the names of his sons as far back as 1895. These lands included fields, pasture, and fallow lands.[38]

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[37] Sarah D. Shields, *Mosul before Iraq: Like Bees Making Five-Sided Cells* (Albany: State University of New York Press, 2000); Ebubekir Ceylan, *Ottoman Origins of Modern Iraq: Political Reform, Modernization and Development in the Nineteenth Century Middle East* (London: I.B.Tauris, 2011).

[38] Nilay Özok-Gündoğan, "A 'Peripheral' Approach to the 1908 Revolution in the Ottoman Empire: Land Disputes in Peasant Petitions in Post-Revolutionary Diyarbekir," in *Social Relations in Ottoman Diyarbekir, 1870–1915*, ed. Joost Jongerden and Jelle Verheij (Leiden: Brill, 2012), 199.

A Case Study: Palu District

Researchers may be better able to understand conditions in plains of Palu and Harput, the most extensive and well-cultivated lands in the province of Diyarbekir, thanks to documentation from inquiries carried out in the district of Palu under the auspices of the Armenian Patriarchate in Istanbul in the year following the Treaty of San Stefano, which was aimed at documenting the plight of the peasants for the benefit of the Porte and foreign powers.[39] Boğos Natanyan, Karakin Sirvantsdyants, and Vahan Bardizaksti Der Minasyan were the three Armenian priests who were sent to the region by Patriarch with the Central Government's consent to report on the conditions of Armenians in the eastern provinces of the empire in 1878-79.[40] Their research was concentrated in this area, which was home to many Armenian peasants. It was a highly productive agricultural zone owing to its rich soil and water resources, namely the Euphrates River and its branches. It was also one of the prime agricultural zones that in addition to growing wheat, barley,

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[39] TNA: WO 33/54, Confidential, "*Military Report on Eastern Turkey in Asia,*" Compiled for the Intelligence Division of the War Office by Captain F. R. Maunsell, vol. I (London: Harrison and Sons, 1892), 468, 484.
[40] Yarman, *Palu-Harput 1878*.

sesame, lentils, linen, rice, and grapes in the second half of the century,[41] became one of the major cotton producing areas in the country.[42]

They found that the Tanzimat reforms had not changed the nature of relationships between the landlords and labourers. Examples from various districts indicated that by the second half of nineteenth century the dominant position of the former group continued and the rate of peasant exploitation had even increased. Various examples from the district of Kiği and Palu showed that the reforms failed on the ground and the cultivators became absolute *rençber*s of the *bey*s (lords) and *ağa*s (rural powerholders). The reforms did little to improve the condition of peasants. They provide many of examples of the inability the Tanzimat government to actually apply new regulations. *Bey*s and *ağa*s, the brokers who mediated the old regime, actually expanded their authority.

In 1878 the district of Palu was one of the most ethnically mixed. It contained seven sub-districts and 273 villages that were inhabited by approximately 52,000 Armenian, Turkish-speaking, Kurdish-speaking, and Zaza-speaking inhabitants.[43] In addition to these settled populations, there were many Kurdish tribes in the surrounding areas of the district. As might be assumed from such an ethnically, religiously,

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[41] Ibid., II:118.
[42] TNA: FO 195/112, encl. 1, Erzurum, July 16, 1839 Brant to Pansonby "Report of a Tour through a Part of Kurdistan in 1838." dated June 1, 1839. According to James Brant there were 200 looms in the town and produced clothes from the native cotton.
[43] Yarman, *Palu-Harput 1878*, II:99, 116, 144–45.

linguistically, and socio-economically diverse population, there was more than one set of powerbrokers. While many Kurdish Muslim overlords dominated the scene, they did not work alone. They forged agreements with Armenian urban notables, called *çorbacı*s, as well as with Ottoman officials.[44] According to Natanyan, two of the most powerful *çorbacı*s were Çıteyan Brothers and Donabet Arpacıyan, They, along with other wealthy Armenians in Palu, played a key role in the oppression and exploitation of Armenians in the region. In addition to having strong networks with influential local actors, the *çorbacı*s also used intermediaries who promoted their interests among Armenian peasantry.[45]

Muslim *bey*s and *ağa*s ruled over both Armenian and Kurdish villagers. In Palu, there were thirteen *beys* and each of whom enjoyed the loyalty of many Kurdish groups who controlled about 217 villages.[46] Additionally, they assumed important offices in the local administration. One observer claimed that the Ottoman government was not at all in control: the *beys* held "sovereignty in their hands."[47] Armenian notables also took advantage of the new situation. Hampartsum Ulusyan of Khoşmat village escaped

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[44] Ibid., II:106–7.
[45] Ibid., II:129–30.
[46] Ibid., II:114–15.
[47] They were listed as Hacı Tahir Bey, Şükrü Bey, Haşim Bey, Şerif Bey, Cinoğlu Bey, Sait Bey, Mehmet Sadık Bey, Mahmut Bey, Küçük Bey, Mehmet Bey, Köhlan Bey, Yusuf Bey, Necip Bey

punishment for his evil deeds because he was a member of the rural communal assembly (*taşra cemaat meclisi*) whose appointment had been supported by Çıtayan Brothers.[48]

Although the Land Code of 1858 was supposed to establish the proprietary rights of the farmers and did enable some peasants to gain title, this did not happen in Palu. The Istanbul investigators, Natanyan and Sırvantsdyants, reported that only one per cent of arable lands in the district was owned by Armenian peasants, the main group of cultivators. That meant almost all the land was registered in the names of the Muslim powerbrokers, the *bey*s and *ağa*s.[49] According to Sırvantsdyants, not only did they take advantage of the peasants' lands, they also took control over un-registered lands inhabited by Kurdish semi-nomadic and settled communities. These groups paid *icar* (rent) in order to cultivate the fields.

Instead of becoming owners of their lands, cultivators were reduced to tenants. Unlike the situation in other districts in the province where, where peasants held on to four fifths of their yields with after the deduction of tithes,[50] one half part of the produce went to the *bey*s.[51] The Armenian peasants living under their control were exploited; they were forced to provide free labour duties, including ploughing and harvesting, furnished food, cut and supplied wood, and were subject to other exactions. As late as 1905, the

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[48] Ibid., II:130.
[49] Yarman, *Palu-Harput 1878*, II:117.
[50] Ibid., II:510.
[51] Ibid.

situation in term of illegal collection of taxation, remained unchanged: Nadir Özbek noted with respect to two villages in Diyarbekir, Khoan, a Kurdish settlement of 300 homes and Baghin, an Armenian settlement with 120 homes:[52]

> Kurdish peasants from Khoan paid 15,000 piastres in tithes, 7,000 in property taxes, 3,000 in earnings/income taxes, and 4,000 in sheep and cattle taxes. The Armenian peasants of Baghin paid 5,600 piastres in tithes, 3,940 in property and earnings taxes, 3,250 in sheep and cattle taxes, and 16,183 in military exemption taxes. These figures reflect only the official record of taxes paid, and do not reflect any sums powerful Kurdish tribal leaders collected, mostly by coercion or brute force.

Tanzimat Successes?

Despite these obstacles and particularly as the result of increasing advocacy by Ottoman citizens themselves within the province and the empire for reforms, the central state and its agents attempted to rectify situations in the east and to deal with conditions of famine and dearth, particularly in the period after the great drought of 1879. There is little doubt that many central state reforms intended to transform conditions on the ground. Of course, the government tried to showcase its efforts: in his book published in 1886 on the agricultural geography of the Ottoman Empire, Lieutenant Commander Hüseyin provided many examples of methods of increasing agricultural production in Europe, particularly in France, and advertised the effort of the Ottomans to apply similar policies. One of the examples of the Sublime Porte's efforts to improve agricultural output came from

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[52] Özbek, "The Politics of Taxation and the 'Armenian Question' during the Late Ottoman Empire, 1876–1908," 777.

Diyarbekir itself: according to Hüseyin, 15,000 *guruş* had been spent in the construction of pigeon houses (*boranhane*) in and around Diyarbekir to provide rich dung as fertilizer.[53]

This was not the only success story of the Tanzimat in Diyarbekir. Although in districts like Palu, Tanzimat policies actually strengthened the control of magnates and their associates over land and labour, in other areas the reforms did improve conditions. Promoting commercialized agriculture among the peasant population was one of the goals of the central state policy in Diyarbekir. The scarcity of raw cotton in Europe resulting from the American Civil War resulted in an economic boom in other provinces, particularly Cilicia.[54] In his report dated December 31, 1862, the British Consul in Aleppo underlined that the Ottoman Government also encouraged cultivation of cotton in Northern Syria and adopted a policy of tax-exemption for "farmers who introduce its cultivation in places where it had not hitherto been sown."[55] Before the 1860s, cotton production in Diyarbekir was "barely sufficient for the consumption of its inhabitants."[56] Both local and central authorities endeavoured to change this picture on the region. But here too "south sea"[?] cotton seed was distributed by the government to a few "landed

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[53] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 11.
[54] For the relationship between cotton growth and rising of Adana-Mersin Region; Meltem Toksoz, *Nomads, Migrants and Cotton in the Eastern Mediterranean: The Making of the Adana-Mersin Region, 1850-1908* (Leiden: E. J. Brill, 2010).
[55] A&P, Commercial, (1863), December 31, 1862 "Report by Mr. Consul Skene on the Trade of Aleppo during the Year 1862."
[56] TNA: FO 78/1682, no. 16, Hani, August 6, 1862 Taylor to Russell

proprietors" in the surrounding areas of Diyarbekir.[57] British officials also received requests from private parties for cotton seed.[58] The British government's enthusiastic support of cotton cultivation was linked to their interest in securing markets for their own manufactured cloths.[59]

It appears that the combined efforts of foreign entrepreneurs and the state were successful in encouraging cultivators to expand cotton cultivation. By 1863, regions that once yielded "so little cotton" prior to the American Civil War (1861-65) increased their production appreciably.[60] The plains of Harput, Arguvan, Malatya, Hısn-ı Mansur, Samsat, Çermik, Çüngüş, Palu, and Ras al-Ayn were the important cotton producers of *Eyalet-i Kurdistan* [the province of Kurdistan].[61] In 1856, the estimated annual amount of

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[57] TNA: FO 78/1682, no. 23, encl. 1, Diyarbekir, December 24, 1862 Taylor to Earl of Russell "Report on the Trade of the Pashalik of Diarbekr for the half-year ending December 10, 1862."
[58] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade, Commerce, and Agriculture of the Diarbekr Pashalik for the Year 1863." dated Diyarbekir, March 31, 1864; TNA: FO 78/1682, no. 23, encl. 1, Diyarbekir, December 24, 1862 Taylor to Earl of Russell "Report on the Trade of the Pashalik of Diarbekr for the half-year ending December 10, 1862."
[59] TNA: FO 78/1682, no. 23, encl. 1, Diyarbekir, December 24, 1862 Taylor to Earl of Russell "Report on the Trade of the Pashalik of Diarbekr for the half-year ending December 10, 1862."
[60] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade, Commerce, and Agriculture of the Diarbekr Pashalik for the Year 1863." dated Diyarbekir, March 31, 1864
[61] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 125.; FO 195/889, no. 10, encl. 1, Diyarbekir, April 18, 1867 Taylor to Lyous
"Report on the Trade and Condition of the Vilaiet of Erzeroom and Eyalets of Kharput and Diarbekr, composing the Consular District of Koordistan, for the Year 1866."

the cotton produced in the province was more than 400 tons, "chiefly consumed in native manufacture."[62] Seven years later, in 1863, production nearly doubled to 750 tons of "clean cotton."[63] By the end of the century the cultivation of cotton continued to increase. According to the published Ottoman Statistics for the year 1909, the quantity of cotton produced in the *sandjak* of Diyarbekir was 1,386 tons.[64]

Tobacco became another major cash crop. In the year 1857, Diyarbekir, Mardin, and Harput together produced 368 tons of tobacco.[65] By 1909, the quantity of tobacco produced annually by Diyarbekir and Mardin had risen more than four times, to 1,779 tons.[66] Throughout the empire, villagers were motivated to increase cash crop production.[67] It was not only in Diyarbekir that cultivators substituted commercial agricultural crops for cereals. One consular report from Aleppo attributed increased farming of cotton instead of sesame to demand from France.[68] From the late 1870s, the

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[62] TNA: FO 195/459, no. 13, encl. 1, Diyarbekir, April 14, 1857 Holmes to Canning "General Report on the Pashalic of Diarbekir." dated March 31, 1857
[63] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade, Commerce, and Agriculture of the Diarbekr Pashalik for the Year 1863." dated Diyarbekir, March 31, 1864
[64] Güran, *Osmanlı dönemi tarım istatistikleri 1909, 1913 ve 1914*, III:25, 27, 52,.
[65] TNA: FO 195/459, no. 13, encl. 1, Diyarbekir, April 14, 1857 Holmes to Canning "General Report on the Pashalic of Diarbekir." dated March 31, 1857
[66] Güran, *Osmanlı dönemi tarım istatistikleri 1909, 1913 ve 1914*, III:52–53.
[67] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade, Commerce, and Agriculture of the Diarbekr Pashalik for the Year 1863." dated Diyarbekir, March 31, 1864
[68] TNA: FO 195/800, no. 4, encl. 1, Aleppo, January 12, 1864 Skene to Eushire, "Report of Trade of Aleppo during the year 1863."

government also promoted opium cultivation in Malatya and Diyarbekir.[69] By 1880, it had become one of the large sources of agricultural wealth in Malatya.[70] The high price commanded by opium led provincial governors to champion opium cultivation, though the introduction of opium cultivation in Diyarbekir was not very successful.[71] Water continued to be a problem in expanding commercial cultivation, especially in areas dependent on rainfall. By building their own irrigation canals some imperial agents tried to solve this problem.[72] Moreover, as commercial agricultural crops replaced wheat, barley, lentil, or sesame, the land and water devoted to subsistence crops decreased.

The Tanzimat state also established public credit institutions. The *Menâfi Sandığı* (public benefit bank), established in 1866, was meant to offer cultivators credit at low rates of interest.[73] In a document dated October 12, 1887, the central government sent an order to authorities in Diyarbekir to authorize *ikraz* (loans) from the Public Benefit Banks and to help farmers who lost crops to locusts.[74] Approximately 940,000 *guruş* had been

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[69] TNA: FO 195/1450, no. 2, Diyarbekir, February 22, 1883, Boyajian to Everett
[70] TNA: FO 195/1316, no. 8, Harput, October 5, 1880 Barnham to Trotter; TNA: FO 424/107, no. 183, encl. 1, Harput, October 5, 1880 Barnham to Trotter
[71] TNA: FO 195/1450, no. 2, Diyarbekir, February 22, 1883, Boyajian to Everett
[72] TNA: FO 195/771, no. 9, encl. 2, Diyarbekir, July 18, 1863 Taylor to Bulwer; FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade, Commerce, and Agriculture of the Diarbekr Pashalik for the Year 1863." dated Diyarbekir, March 31, 1864.
[73] Stanford J. Shaw and Ezel Kural Shaw, *Reform, Revolution, and Republic: The Rise of Modern Turkey 1808-1975*, vol. II (Cambridge: Cambridge University Press, 1977), 101; Erler, *Osmanlı Devletin'de Kuraklık ve Kıtlık Olayları, 1800-1880*, 388.
[74] BOA, MV, 25/11, 24 Muharrem 1305/October 12, 1887.

set aside to loan cultivators for the purchase of seed.[75] A decade later, these credit institutions were replaced by the Ottoman Agricultural Bank, which were "empowered to advance seed corn from such stocks as they have in hand to the peasants, upon the security of their title-deeds, at the same low rate."[76] But the agricultural banks experienced shortages of cash. In 1894, the Erzurum Agricultural bank ran short, and the central government sent an order to local authorities to collect 200,000 *guruş* from the banks in the surrounding areas to provide cash to agriculturalists.[77]

By establishing the Public Benefit Bank in provincial capitals, the Ottoman government sought to undercut moneylenders who advanced credit to peasants at high rates of interest. In a petition presented to the Imperial Reform Commissioners, the Armenian inhabitants of Muş stressed that the banks had become a critical resource for peasants. These inhabitants testified to the fact that the banks that had, in the past, lent money to peasants at low interest, which "they had willingly repaid." Without them, peasants had been forced to borrow from private individuals. *Beys* and *ağa*s had begun lending money at "exorbitant" rates of interest.[78] During the bad harvests of the last decade of the century, when it became impossible to pay these debts, they became locked

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[75] BOA, A.}MKT.MHM, 495/20, 29 Safer 1305/November 16, 1887
[76] TNA: FO 424/178, no. 125, encl. 1, Erzurum, April 25, 1894 Graves to Currie
[77] BOA, BEO 407/30470, 17 Zilkade 1311/May 22, 1894
[78] TNA: FO 195/1315, no. 21, encl. 1, Van, May 25, 1880 Clayton to Trotter

in a cycle of poverty. Peasants were forced to mortgage plough animals and, if they possessed land title, their lands.

Helping to curtail the impact of locusts became another priority of the Tanzimat state. In Diyarbekir province, although swarms of locusts inflicted great damage on crops between 1863 and 1865, as mentioned in the second chapter, there appears to have been little government action. By the last decades of the century, however, orders from Istanbul addressed the problem of insects and suggested different approaches to deal with the problem. In autumn of the 1886, for example, in Diyarbekir and Mardin work on a major public road was suspended so that the labourers could collect locust eggs.[79] They gathered a very high number of eggs that were destroyed before they hatched.[80] The following year, the government encouraged local inhabitants to collect locust eggs by paying 20 *para* for each *kıyye* of eggs from the resources of the *Menâfi Sandığı*.[81]

In the 1890s the central government seemed to make locust control a priority. The *mutasarrif* of Mardin district, Kamil Pasha, was removed due to misconduct and for paying insufficient attention to the destruction of locust eggs.[82] The Porte insisted that local administrators carefully follow instructions that were drawn up in the "Locust Regulations" (*Çekirge Nizamnamesi*). The *vali* of Diyarbekir was ordered to go to

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[79] BOA, DH.MKT, 1378/108, 24 Muharrem 1304/October 23, 1886
[80] BOA, DH.MKT, 1388/51, 2 Rebiülahir 1304/December 29, 1886
[81] BOA, MV, 41/15, 21 Kanunievvel 1302/January 2, 1887
[82] BOA, DH.MKT, 1422/58, 29 Şaban 1304/May 23, 1887

Mardin in person to make sure that the correct methods were being applied.[83] Then the state ordered that *redif* [new conscript] soldiers were to be deployed in the collection of locust eggs in the district of Mardin and its sub-districts, which also speaks to the Porte's determination to remedy this problem.[84] A few years later, the new regulation committed the government to pay 20 *para* for the first *kıyye* of locust eggs and 10 *para* for the next *kıyye*s.[85] In 1890, in order to manage the insects efficiently, the government of Diyarbekir province employed local people.[86] A document from February 6, 1902 refers to the fact that the state set aside 85,400 *guruş* in the budget for combating this insect for the entire empire.[87]

State Efforts to Address Drought

Due to the rise in the frequency of crop failure owing to a deficiency of rain during the first phase of environmental crisis in the 1840s, the demands of peasants requesting seeds and animals from the central government increased. In July 19, 1841, the inhabitants of Diyarbekir asked for seed to sow and draft animals.[88] In September 14, 1841, the state

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[83] BOA, DH.MKT, 1422/86, 3 Ramazan 1304/May 26, 1887
[84] BOA, DH.MKT, 1428/50, 9 Şevval 1304/June 22, 1887
[85] BOA, MV, 53/53, 15 Nisan 1308/April 27, 1892
[86] BOA, DH.MKT, 1721/67, 17 Nisan 1306/April 29, 1890
[87] BOA, DH.MKT, 2589/88, 24 Kanunisani 1317/February 6, 1902
[88] BOA, ML.EVM, 512/16, 29 Cemaziyelevvel 1257/July 19, 1841, p.43.

concurred.[89] After a local investigation in areas that were administratively dependent on Diyarbekir and Urfa was carried out, the government ordered that an appropriate amount of seed and draft animals were to be given to those who needed them.[90]

Another report, dating from November 15, 1845, also referenced the hardships suffered in the province because of the drought.[91] According to this document, the fall harvest had failed. It was estimated that 200 villages in the surrounding city of Diyarbekir did not have enough wheat and barley seed to sow. Ottoman authorities ordered that 1,000 Diyarbekir *kile*s of seed to be distributed to peasants. Peasants were asked to repay this advance of seed as a loan. It is unclear whether an allotment of five *kile*s of seed would be sufficient to meet the needs of these villages. Moreover, the poor weather continued for two full years. In April 19, 1847, the governor-general (*müşir*) and chief-accountant (*defterdar*) of Diyarbekir explained to the central authorities that it would be difficult to provide grain for the army because wheat and barley continued to be in short supply.[92] In spite of the scarcity of crops, the governors managed to requisition 7,500

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[89] BOA, İ.MVL, 27/449, 25 Recep 1257/September 14, 1841
[90] BOA, İ.MVL, 27/449, 25 Recep 1257/September 14, 1841
[91] BOA, C.İKT, 637/13, 15 Zilkade 1261/November 15, 1845
[92] BOA, İ.DH, 144/7413, 3 Cemaziyelevvel 1263/April 19, 1847; BOA, A.MKT, 69/30, 15 Rebiülevvel 1263/May 1, 1847

local *kiles* of wheat and barley and sizeable amounts of butter from Behramki, Lice, Hazro, Hani, Kiki, Turkman, Şark, Garb, Savur, Metinan, Beşiri, Redvan, and Derik.[93]

Peasants' demands for seed and animals tremendously increased in the autumn of 1879. Owing to deficiency of rain and unusually high temperatures across Kurdistan, from Diyarbekir to Erzurum and Van to Mosul, most crops failed. By the sowing season of autumn 1879, many cultivators little seed in hand to sow. Facing starvation, farmers in the province of Diyarbekir demanded seed for the next year.[94] According to the English Consul's despatch, the *vali* of Diyarbekir, İzzet Paşa, promised to investigate the matter. Istanbul was aware of conditions. The governor of Erzurum received an order from Constantinople to distribute 500 *şomar*s[95] of wheat to the inhabitants of Pasin, Eleşgirt, and Beyazid by the end of the spring sowing season.[96] Representatives of the twenty-six villages of the Pasin plain awaited the 100 ş*omar*s of wheat seed that had been promised.[97] In his response to the British consul, who complained about the lack of seed in the countryside, the Governor-General of Erzurum claimed that the government was

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[93] BOA, İ.DH, 144/7413, 3 Cemaziyelevvel 1263/April 19, 1847
[94] TNA: FO 78/2991, no. 36, encl. 1, Diyarbekir, August 24, 1879 Boyajian to Trotter
[95] One *şomar* equals to 16 kilograms. Martin van Bruinessen and Hendrik Boeschoten, eds., *Evliya Çelebi in Diyarbekir: The Relevant Section of The Seyahatname* (Leiden: E.J. Brill, 1988), 268.
[96] TNA: FO 424/106, no. 182, encl. 1, Erzurum, April 30, 1880 Everett to Trotter
[97] TNA: FO 424/106, no, 182, encl. 1, Erzurum, April 30, 1880 Everett to Trotter

fully engaged and would "never at any time relax their efforts in this direction, this being a duty to the Government."[98]

There were considerable discrepancies regarding who received government support and when. Though it was perhaps late for the planting season, the villagers of Amrakom, inhabited by Muslims received seed from the government by the first week of the May. The neighbouring Armenian village Zedikhan, on the other hand, finally received seed from the Armenian Committee at Erzurum but nothing from the government.[99] In Sivas the government furnished seed to the refugees from Caucasus.[100] A hierarchy of need seemed to guide redistribution of food. Another British reporter noted that:

> Early in 1880 the Vali of Erzeroum, under orders from the Porte, sent grain for distribution to the poor; but no mercy was shown where payment could not be given, and forty-five Kurds were allowed to die from hunger where a little ordinary charity might have kept them alive. The Christians got none of the seed sent by the Government for distribution.[101]

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[98] TNA: FO 424/106, no. 182, encl. 2, April 16, 1880 The Governor-General of Erzurum to Everett

[99] TNA: FO 195/1316, no. 4, encl. 1, Erzurum, June 11, 1880 Everett to Trotter "Report by Lieutenant-Colonel Stewart, Bengal Staff, on the State of the Country between Erzeroum and the Persian Frontier, near Bayazid, as regards Cultivation and Famine."

[100] TNA: FO 424/107, no. 18, encl. 6, Sivas, July 2, 1880 Chermside to Wilson; TNA: FO 424/107, no. 100, encl. 4, Sivas, August 8, 1880 Chermside to Goschen; TNA: FO 424/123, no. 75, encl. 1, Tarabya, August 22, 1881.

[101] TNA: FO 424/123, no. 75, encl. 1, Tarabya, August 22, 1881 Dufferin to Granvill "Indictment against the Valis of Sivas and Diyarbekir, the Public Prosecutor of Sivas, and the Mutessarifs of Marash and Bayazid."

Another example from Erzurum demonstrates religious bias as well. In their petition dated December 2, 1879, the Armenian inhabitants of Kara Kilise asked the British Consul of Erzurum to intervene in what was seen as very unfair distribution of grain among the population. They claimed that the wheat from the government warehouses, which should have been distributed equally had been given "only" to the Muslims, and the "Turkish refugees" [perhaps referring to Circassians]."[102] The Bishop of Üç Kilise also reported unjust distribution of seed and grain among Christians and Muslims.[103] In the district of Bayezid, Armenians claimed that the government's existing grain stocks were "given only to the kaymakams, sheiks and zabits" but nothing to the Armenian residents.[104] Such discrimination was seen elsewhere. Clearly, power relationships dictated the channels of redistribution. In Muş food prices in the town almost doubled in a very short time but "the Mutasarrifs of Mush had been giving corn from the government stores to the Mufti, Cadi, and other rich and influential persons, whilst not distributing grain to the poor."[105]

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[102] TNA: FO 195/1237, no. 5, encl. 1, Erzurum, December 17, 1879, Everett to Trotter "Petition from Kara-Kilissa." Kara-Kilissa, December 2, 1879
[103] TNA: FO 195/1237, no. 5, encl. 1, Erzurum, December 17, 1879, Everett to Trotter
[104] TNA: FO 424/106, no. 91, encl. 2, Erzurum, February 7, 1880 Everett to Trotter "Petition from Bayazid." dated January 14, 1880
[105] TNA: FO 424/107, no. 38, encl. 1, Tarabya, June 21, 1880 Goschen to Granville

Local governments did attempt to champion the needs of their population. In a document dated August 17, 1887, the central government sent an order to the province of Diyarbekir asking how much money they needed for purchasing seed, which would be distributed among inhabitants whose yields had been destroyed by locusts.[106] In their response to the Minister of Finance, local authorities responded that the necessary *malumul kile* of wheat and barley amounted to 2,350.000 *guruş*.[107] According to this document, many peasants and town dwellers in the neighbourhood of the Şark and the Garb of the city, and also in the districts of Behramki, Kiki, Turkman, and Beşiri, were already in desperate conditions. The agricultural crops in those places had been totally destroyed by the swarm of locusts and nothing was left in the hands of the inhabitants to sow for the next year.[108] However, in the end the central government did not approve the budget requested but instead asked for more precise information regarding local conditions.[109] In its response to the Ministry of Finance's *tezkire,* however, the Diyarbekir *Meclis İdaresi* emphasized that it was impossible to make such an investigation due to dispersion of the affected areas in the country and they made another suggestion for relieving stress among inhabitants.[110] It stated that, in addition to the postponement of *tekalif-i emiriyye* (tax), the government should distribute a certain

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[106] BOA, MV, 23/25, 27 Zilkadde 1304/August 17, 1887
[107] BOA, DH.MKT, 1444/28, 15 Zilhicce 1304/September 4, 1887
[108] BOA, DH.MKT, 1444/28, 15 Zilhicce 1304/September 4, 1887
[109] BOA, A.}MKT.MHM, 494/37, 4 Zilhicce 1304/August 23, 1887
[110] BOA, A.}MKT.MHM, 495/20, 24 Muharrem 1305/October 12, 1887

quantity of seed to inhabitants who were in destitute conditions and they asked for permission for purchasing wheat and barley seed, which would cost approximately 940,000 *guruş*.[111]

A document from September 27, 1887 suggests the reasons why officials on the ground were anxious to get central state approval for postponing tax collection the province. According to this document, swarms of locusts resulted in great losses to the harvest in the major agricultural areas of the districts of Cezire, Midyat, and Avniye. Many peasants abandoned their villages. Therefore, the *mutasarrif* of Mardin suggested that forgiving taxes might be necessary to induce peasants to return to their fields. By forgiving taxes, he reasoned, the local government would not be responsible for distributing. In the district surrounding Diyarbekir, the local *kaymakam*, *mufti*, *defterdar*, and lieutenant governor of the city decided to provide support for the most desperate villagers. In addition to the postponement of the annual tax, the *tekalif-i miri*, 4,000 *kile-i Amedi* wheat and 2,000 of *kile-i Amedi* of barley would be purchased by the government for distributing among villagers, who were in a "struggle for survival."[112]

Postponement of taxes owing to crop failure caused by drought and locusts was one of the more common policies adopted by local and central authorities to address crop

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[111] BOA, A.}MKT.MHM, 495/20, 24 Muharrem 1305/October 12, 1887
[112] BOA, A.}MKT.MHM, 495/20, 15 Eylül 1303/September 27, 1887

failure and hunger. Peasants' demands for tax relief were not inconsequential. In their petition dated August 16, 1887, inhabitants of Cezire, whose crops had been destroyed by locusts, asked for a postponement of taxes and other forms of state contributions.[113] In another instance, it was the governor of Bitlis who asked the central state to forgive (*ihsan*) tithe and other taxes (*aşar vergisi ile vergi akçesi*) of inhabitants of Eruh in the district of Siird, a region that had been very affected by locusts in the province.[114] The authorities in consultation with the Ministry of Finance[115] did not accept the governor's proposition. Istanbul did agree, however, to postpone the collection of taxes in Siird and its surrounding areas until late October 1887.[116]

Delays in responding to imperial orders by local officials affected the outcome of state interventions. For example, early in the autumn of 1887, peasants from the districts of Beşiri, Turkman, Kiki, Behramki, and Midyat presented many petitions to the Governor-General "explaining the extent of their misery, and imploring him to advance them a certain quantity of grain that they might have seeds to sow and be able to support themselves through the winter." However, although an order came from the Minister of

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[113] BOA, DH.MKT, 1440/6, 4 Ağustos 1303/August 16, 1887
[114] BOA, DH.MKT, 1441/38, 1 Zilhicce 1304/August 21, 1887; BOA, DH.MKT, 1446/82, 25 Zilhicce 1304/September 14, 1887
[115] BOA, DH.MKT, 1441/38, 1 Zilhicce 1304/August 21, 1887; BOA, DH.MKT, 1446/82, 25 Zilhicce 1304/September 14, 1887
[116] BOA, DH.MKT, 1456/18, 1 Safer 1305/October 19, 1887

Interior to that effect, the authorities in Diyarbekir rejected their petitions.[117] The "misery" and "destitution" state of the country was aggravated by "the rigour of the winter," in which the poor people were "plunged."[118] In the southern portion of the province, the *mutasarrif* of Mardin and the *kaymakam* of Midyat were blamed by vice-Consul Thomas Boyajian of Diyarbekir for "being totally indifferent to the sufferings of the people, endeavor[ing] to conceal its existence."[119]

By the spring sowing season in 1894, thousands of peasants were demanding wheat and barley seed to sow for the next year. A large quantity of grain and barley was imported into Erzurum at government expense. As soon as it arrived officials were sent to different districts of province

> to superintend the distribution of 45,000 kilés of this wheat as seed corn to such of the peasants as need it for spring sowing, at a fixed price of 19 piastres per kilé, which is exactly one-third of the present market price, and is to be repaid, in money or in kind, only after they have reaped their next harvest.[120]

Unlike Kurdish and Christian inhabitants of Bayezid, the agricultural population in the surrounding areas of the provincial capital of Diyarbekir may have been more fortunate in their ability to gain the attention of the authorities especially as communications

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[117] TNA: FO 424/145, no. 17, encl. 1, Diyarbekir, February 6, 1888 Boyajian to Wratislaw
[118] TNA: FO 424/145, no. 17, encl. 1, Diyarbekir, February 6, 1888 Boyajian to Wratislaw
[119] TNA: FO 424/145, no. 17, encl. 1, Diyarbekir, February 6, 1888 Boyajian to Wratislaw
[120] TNA: FO 424/178, no. 125, encl. 1, Erzurum, April 25, 1894 Graves to Currie

improved. A telegraph, dated April 30, 1899, gave an overview of the state of agriculture. Owing to a recent epidemic affecting local cattle and draft animals, farmers were selling much of their harvest to replace them. This had left them short of seed during the sowing season to plant wheat, barley, and millet. Their needs required an immediate response: in two weeks it would be too late to sow their crops. In this case, the Ottoman central authorities responded expeditiously: they ordered that 3,200 Istanbul *kiles*[121] of seed be distributed to peasants. The peasants would be responsible for repaying this loan at the time of harvest.[122]

Although these examples are at best anecdotal, they do suggest that the state did adopt new policies in dealing with crises. In the past they had only forgiven taxes. In the last decades of the nineteenth century, there were many examples of situations in which local officials asked for permission and funding in order to distribute seed and draft animals. The state's motivation in fulfilling these requests was clear: imperial officials attempted to prevent peasant flight and keep agriculturalists on the land in order to

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[121] One İstanbul *kile* equals to 24.215 kilograms. Halil İnalcık and Donald Quataert, eds., *An Economic and Social History of the Ottoman Empire, 1300-1914*, vol. I (Cambridge: Cambridge University Press, 1997), 990.
[122] BOA, DH.MKT, 2198/51, 26 Zilhicce 1316/May 3, 1899

sustain continuity in the agricultural production of the empire. Local authorities' efforts to support populations in times of need was noted in other provinces as well.[123]

Feeding Cities

Supplying commercial and administrative city centres in times of famine was another common policy that Ottoman local governors adopted. For instance, during the great scarcity in the winter of 1841, the pasha of Erzurum fed many poor people, mostly refugees fleeing from their villages. It seems that pasha tried his best "to alleviate as much as he can the misery has for some time fed daily with rice and meat upwards of three-hundred, and the number is continually augmenting."[124] In the following week the number of refugees continued to increase and the pasha fed between six and seven hundred daily.[125] Furthermore, in order to relieve food stress in the streets, the pasha took all stocks of seed but "paid for at their full value."[126] Shortages of bread and flour nevertheless continued and orders for the importation of grain from the neighbouring provinces appeared. As soon as inland communication between Trabzon and Erzurum

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[123] TNA: FO 424/122, no. 10, encl. 1, Adalia, December 23, 1880 Steward to Goschen. For example, the Müdir of Isaklı, in the Bursa Vilayet, demanded 15,000 *kile*s of corn for using as seed and to feed the people.
[124] TNA: FO 195/175, no. 1, encl. 1, January 26, 1841 Brant to Pansonby "Report on the trade of Erzeroom for 1840, and on the state of the Pashalik." dated January 21, 1841
[125] TNA: FO 195/175, no. 1, Erzurum, January 26, 1841 Brant to Pansonby
[126] TNA: FO 195/175, no. 1, encl. 1, January 26, 1841 Brant to Pansonby "Report on the trade of Erzeroom for 1840, and on the state of the Pashalik." dated January 21, 1841

province became possible by the disappearing of snow, the pasha employed many animals to bring two cargoes of grain from the port city of Trabzon to Erzurum.[127] By that way the rise of bread prices in the city diminished.

Want of bread, high food prices, and scarcity of grain were a continuous phenomenon in the city of Erzurum during 1847 and 1848. In order to relieve food stress in the streets, Ottoman local authorities ordered "large supplies" of grain from the districts of Muş, Kars, and Erzincan, owing to their "unusually abundant crops" and by "their arrival there has not been any further talk of scarcity, nor want of bread" in the city. But deterioration in the bread quality and higher than average prices of grain dominated markets in the city for a long time.[128] The governor general of Erzurum was not oblivious to the demands of the bakers at the time of scarcity in the summer 1848 while "grain and flour rose exorbitantly." Prices began to decline by the arrival of supplies that the local government ordered.[129]

In these years, the need was widespread. The state of inhabitants in the province of Mosul and Baghdad was not better than Erzurum. Giritlioğlu Mehmet Pasha of Mosul, for instance, bought grain through private agents who were "directed to gradually store at

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[127] TNA: FO 195/443, no. 10, Erzurum, May 28, 1841 Brant to Palmerston
[128] TNA: FO 78/703, no. 7, Erzurum, January 30, 1847 Brant to Palmerston
[129] TNA: FO 195/284, no. 18, Erzurum, June 9, 1848 Brant to Canning

Zaho without attracting unnecessary attention."[130] Pasha was right in collecting grain to distribute in Mosul because by the harvest season the plains of Mosul produced less than the quantity of seed sown.[131] Further south, Necip Pasha's effort in Baghdad was not enough to feed the city and the supply "never nearly equalled the demand."[132]

The state's effort towards feeding cities became frequent in the last quarter of the nineteenth century. Especially during the great famine in 1879-1881, local authorities made sure that food supply for the city was supplied by Malatya and Sivas. In one instance, the governor of Malatya, sent 100,000 *okes*[133] of government wheat. But the supply was to be divided between the local battalion and the city. Destitution in the country was very great and required an even larger amount of grain from Sivas, indeed thrice the size of the cargoes sent from Malatya -- "300,000 *oke*s for Diyarbekir and 200,000 *oke*s for Mosul."[134] Besides the importation from neighbouring provinces, Ottoman authorities used almost every potential resource including "90,000 *okes* of old biscuits prepared for the Turkish army during the war, but not required."[135] It is important to note that long before prices increased in the city of Diyarbekir, the governor adopted

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[130] TNA: FO 195/301, no. 18, Mosul, April 17, 1847 Rassam to Wellesley
[131] TNA: FO 195/301, no. 35, Mosul, July 24, 1847 Rassam to Cowley
[132] TNA: FO 195/318, no. 19, Baghdad, May 28, 1848 Rawlinson to Canning
[133] One okes equals to 2 ¾ Ibs.
[134] TNA: FO 195/1316, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury; FO 424/106, no. 114, Diyarbekir, March 3, 1880 Trotter to Salisbury
[135] TNA: FO 195/1316, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury

other policies that the British consul considered a "great benefit to the poor of the city of Diyarbekir":

> At a time when prices were much higher than the normal, although very much lower than at present, he made the leading men here enter into a compact to supply flour to the town bakers, sufficient for town consumption, at a certain fixed moderate price, so that the price of bread would remain uniform at 1 ¾ piasters the oke. Up to date this arrangement has worked well, and bread is still selling in the town at the above price.[136]

The degree of local autonomy in making decisions about relief varied widely. If the Diyarbekir governor took matters in his own hands, provincial authorities in Erzurum waited for an order from the Porte before distributing grain in the countryside.[137] In the district of Pasin, for instance, the *kaymakam* waited for orders for distribution of wheat although more than half of population of that place could not afford to purchase grain. Furthermore, the *kaymakam* of Pasin requested the British Consul to bring this situation "to the notice of the Vali" and emphasized that permission should be given to sell grain from the Government stores."[138] Distribution within the province was uneven. Inhabitants of Toprakkale, in Erzurum, were supplied while in Karakilise "no arrangements at all

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[136] TNA: FO 195/1316, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury
[137] TNA: FO 424/91, no. 112, encl. 1, Erzurum, November 5, 1879 Trotter to Layard
[138] TNA: FO 424/91, no. 133, encl. 1, Erzurum, November 4, 1879 Everett to Trotter

appear to have been made, even for ascertaining the amount of wheat that the district would require."[139]

Throughout the region, efforts to relieve food shortages were subverted by local powerbrokers and robbers, especially as the price of grains increased. Another report claimed:

> Two months ago a caravan of 1,000 camels left Diarbekir with wheat for Mosul. It was a long time on the way owing to bad roads, but it arrived at length within a few hours of Mosul, and for the last twelve days there it has remained. Two hundred camel loads were brought in and disposed of, but of the rest no one has heard and no one seems to know what has become of it. The caravan belonged to Moslems and the belief is prevalent that the grain has been brought in secretly and stored up.[140]

In the district of Van, the government made some essential interventions when the bakers in the town closed their shops, "fearing an attack on them." At that point, the government took steps to provide assistance for the needs of people. By using its large stores of wheat, "the produce of the tithe, the government was distributing daily a Van *kile* of wheat to each of four bakeries." Furthermore, by the arrival of reports from rural areas concerning the "great dearth of seed-corn among peasants," the government proposed sending agents around in order to measure the required amount of seed in

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[139] TNA: FO 424/91, no. 133, encl. 1, Erzurum, November 4, 1879 Everett to Trotter
[140] A&P, Turkey, no. 23, (1880), no. 47, encl. 1, Mosul, January 19, 1880 Miles to Layard

various localities.[141] The impact of famine tremendously increased with the approach of the severe winter. Despite difficulties in communication between Van and Hakkari, the government of Van sent 200 *kiles* of corn to "mitigate the distress" in Hakkari.[142]

Lack of inter-regional cooperation also compromised food relief. For example, in the neighbourhoods of Malazgirt, Bulanık, and Adilcevaz, in Van, wheat was in abundance.[143] However, the governor-general of Van refused his counterpart from Erzurum's request to buy grain from those districts." It is important to note that in the face of this refusal, the *vali* of Erzurum did not give up. Instead, he wrote a letter to Constantinople "to press the demand" and additionally he applied to the Iranian Consul to inquire about grain purchased from Iran. Thus, *vali* intended to take every possible step to diminish the impacts of famine and to relieve the food stress, particularly in the districts of Diyadin, Beyazid, and Eleşgirt, where the Armenian inhabitants were "in most pitiable" conditions. It seems that every local authority prioritized its own territorial boundaries and the existence of any reference to famine in any district was therefore enough to refuse sending grain to the neighbouring province.

In addition to supplying grain from the neighbouring provinces, local authorities generally prohibited the exportation of grain from the famine region. By that way they

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[141] TNA: FO 195/1237, no. 1, Van, October 9, 1879 Clayton to Trotter
[142] TNA: FO 424/106, no. 122, encl. 1, Van, February 2, 1880 Clayton to Trotter
[143] TNA: FO 195/1237, no. 5, Erzurum, December 17, 1879 Everett to Trotter

tried to save existing stocks and prevent increasing stress in the province. To accomplish this they were willing to challenge the Ottoman concession regime. Thus, although a French merchant in Baghdad produced a letter from the grand vizier, which allowed him to export wheat and barley from the province of Mosul for Baghdad, the governor of Mosul refused to give his consent and claimed that "the exportation of these staple articles of food would so raise their price …beyond the power of the poor to purchase."[144] Mosul was not alone in prohibiting the exportation of grain. In 1848, during the great crisis triggered by scarcity of food and Asiatic cholera on the banks of the Tigris River, the authorities imposed some restrictions on the grain trade of Baghdad. By proposing to meet the needs of the inhabitants "who petitioned for relief against the famine prices that have lately ruled in the corn market," Necip Pasha made some new regulations in the grain trade of the town. Hence he limited the quantity of grain to be purchased by any single individual. Of course foreign observers whose own interests were compromised by such policies suspected that the real motivation was the governor's personal profit.[145]

Protecting local food supply became a recurrent policy later in the century. In November 1879, the *mutesarrif* of Mosul prohibited the export of almost every type of article produced in the region including figs, raisins, peas, lentils, onions, bulgur, "madkoka," wheat, barley, rice, grapes, sesame, butter, and even cut straw. The

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[144] TNA: FO 195/228, no. 16, Mosul, November 20, 1843 Rassam to Canning
[145] TNA: FO 195/318, no. 19, Baghdad, May 28, 1848 Rawlinson to Canning

prohibition became necessary in Mosul as "great fears" emerged among inhabitants that "if rain does not fall shortly there will be a famine" in the province. Every staple in the market of Mosul was 50 per cent "dearer" than it was in 1877 and riots began to rise in the wheat market of Mosul.[146] In the early summer of 1879, in Baghdad, the government prohibited the exportation of grain and this policy was placed on the export of all kinds of edible produce from Mesopotamia including dates, sesame, and other seeds.[147]

In Diyarbekir, distressed on account of the expense and scarcity of grain and barley during the great famine, local authorities attempted to prohibit exportation of some articles from the region. However, it seems that there were some disagreements between the central government and authority in the province. For instance "at the urgent request of the principal inhabitants of Diyarbekir," Bekir Pasha despatched a telegraph to Constantinople "recommending the continuance in force of the prohibition to export grain from Diyarbekir to Mosul."[148] Nonetheless, instead of following recommendations suggested by the local governor, the Porte decided to withdraw the prohibitions.[149] The essential motivation behind this act, according to Trotter, was "while any quantity of grain can be floated down the Tigris with ease, it is absolutely impossible to bring such

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[146] TNA: FO 424/106, no. 13, encl. 8, Mosul, November 5, 1879 Russell to Miles
[147] TNA: FO 195/1243, no. 67, Baghdad, June 12, 1879 Nixon to Foreign Office London
[148] TNA: FO 78/3132, no. 3, Diyarbekir, February 13, 1880 Trotter to Salisbury
[149] TNA: FO 78/3132, no. 3, Diyarbekir, February 13, 1880 Trotter to Salisbury

grain back again by the same channel."[150] The destitution of the country continued to increase and various districts from the eastern portion of the province demanded grain from Diyarbekir while thousands of refugees were already searching for food in the streets. After "much hesitation and many contradictory orders in the part of authorities" both there and at Constantinople, exportation of corn finally was prohibited there again.[151] However, despite the fact that exporting grain outside of the province was officially banned, "on account of venality of the officials," a great amount, "about a hundred rafts laden with grain," left the city during "the existence of the prohibitive order."[152] At the same time additional orders, which revealed the involvement of government, " prevented merchants and speculators from sending large orders for grain to Sivas and Harput, where grain is plentiful and comparatively cheap."[153]

There was much vacillation on the part of local officials, which affected markets.[154] The government of Diyarbekir felt compelled to enforce a ban on grain exports after receiving supplies from Malatya and Sivas.[155] By May 1880, "after much hesitation and many orders and counter orders," the prohibition towards exportation of grain in Diyarbekir was withdrawn and a "very large quantity" of wheat and barley was

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[150] TNA: FO 78/3132, no. 3, Diyarbekir, February 13, 1880 Trotter to Salisbury
[151] TNA: FO 195/1316, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury
[152] TNA: FO 195/1316, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury
[153] TNA: FO 195/1316, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury
[154] TNA: FO 424/106, no. 194, encl. 1, April 3, 1880 Chermside to Layard
[155] TNA: FO 195/1316, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury

"at once" shipped to Mosul and Cezire. Prices in Mosul and Cezire diminished considerably while in the Diyarbekir prices rose in a short time.[156]

Added to the problems of contradictory policies of local and central state officials, were the actions of foreign agents. In order to provide seed to some peasants whose crops failed totally in the field owing to drought, British officials began to collect grain in various parts of the empire in defiance of orders, which prohibited the exportation of certain articles.[157]

In addition to prohibiting the exportation of certain types of food, local governors sometimes reduced or eliminated import duties on wheat and barley for a limited time. In September 1879, for example, the growing scarcity of food forced Abdulrahman Pasha of Baghdad to lift the custom duties on barley and wheat that were imported from India, Persia, and other foreign countries for six months.[158] The British consul Nixon seized on this opportunity to import grain, immediately notifying British subjects in Baghdad and

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[156] TNA: FO 195/1316, no. 16, Diyarbekir, May 20, 1880 Trotter to Granville
[157] TNA: FO 424/122, no. 14, Erzurum, December 30, 1880 Everett to Trotter; FO 424/107, no. 207, Van, November 2, 1880 Clayton to Trotter
[158] TNA: FO 195/1244, no. 103, Baghdad, September 10, 1879 Nixon to Layard

the East India Company. The arrival of grain from India in Baghdad relieved hunger. Indeed, it was in such supply that there was even enough to ship to Mosul.[159]

In another telegram dated February 10, 1880, the British consul in Mosul stated that the Lynch Company was preparing to send Indian wheat to Mosul via steamer. In addition to three steamers on river, the Lynch Company intended to launch a fourth one and sought special permission to do so.[160] As soon the crisis subsided, the governor considered repealing the customs exception. But continued shortages in the Baghdad forced the governor to make another declaration dealing with custom duties on imported wheat and barley. In his letter to the British Consul General of Baghdad, dated February 19, 1880, Abdulrahman Pasha announced that he would extend the customs exception on grains entering the country from Persia and India via Basra for another six months.[161]

In Baghdad, a major commercial centre, cancellation of the customs duties became a frequent policy to relieve shortages of food. In the autumn of 1886, after locusts destroyed all the dates in the province of Baghdad, the government prohibited not only exportation of dates but also cancelled import tariffs on this produce, which was an

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[159] TNA: FO 195/1308, Telegram, Mosul, January 31, 1880 Miles to Ambassador in Constantinople
[160] TNA: FO 195/1308, Telegram, Mosul, February 10, 1880 Miles to Ambassador in Constantinople
[161] TNA: FO 195/1308, no. 81, encl. 1, February 19, 1880 Abdurrahman Pasha to British Consul General in Baghdad (translation)

important part in the diet of people in the country.[162] At the same time, the authorities in Baghdad declared another order. According to this order, owing to swarms of locusts, grain prices increased in the market and therefore cereal imported from India through sea and rivers would be exempt from custom duties.[163] This order was enforced until the local crops were harvested in the autumn.[164] However, another infestation of locusts prevented the pasha from re-imposing the tariffs in Baghdad and Mosul. Taxes on every type of grain (*bütün hububat cinsleri*) imported from India and other countries were cancelled.[165] Responding to merchant demands, this policy was continued an additional year due to shortfalls in the harvest and to prevent famine.[166] Frontier emporia, it seems, were best positioned to manipulate tariffs to assure adequate supplies of imported grain. The governor of Erzurum also cancelled tariffs on grain imported from Persia and Russia to aid the distressed populations in 1894.[167]

Despite the taxation reform of the Tanzimat state, the tithes continued to be collected in kind rather than in cash. The necessity of feeding the army and supplying the population during times of foot shortages were essential reasons for the empire to protect

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[162] BOA, DH.MKT, 1372/78, 17 Muharrem 1304/October 16, 1886
[163] BOA, MV, 13/26, 18 Muharrem 1304/October 17, 1886
[164] BOA, İ.MMS, 85/3688, 19 Muharrem 1304/October 19, 1886
[165] BOA, DH.MKT, 116/1379, 24 Safer 1304/November 22, 1886
[166] BOA, DH.MKT, 1415/91, 02 Şaban 1304/April 26, 1887; BOA, MV.23/11, 24 Zilkade 1304/August 24, 1887
[167] TNA: FO 424/178, no. 125, encl. 1, Erzurum, April 25, 1894 Graves to Currie

its grain-stores, which existed in almost every district in the Ottoman East in the period under consideration. The occurrence of many great wars with Iran and Russia and many Kurdish rebellions in the nineteenth century increased the importance of grain stores to feed the army on the eastern front. These in-kind tithes and storehouses were a major resource in times of need.

Depending on the agricultural production capacity of the region, the size of government storehouses differed. Sivas, Malatya, and Harput had very large grain storages in their surrounding areas. As stated above, during the great famine, for instance, the provinces of Diyarbekir and Mosul were supplied with grain from Malatya and Sivas. In his meeting with the British Consul, the *kaymakam* of Pasin district in Erzurum province underlined that in seventeen villages "ten Turkish and seven Armenian – the Government wheat stores had been robbed by the villagers, and (…) nothing remains of the 900 *somar*s [*şomar*]."[168] The wheat that was plundered by the peasants, according to *kaymakam*, was waiting to be sold in the market of the town but now nothing remained to sell to desperate people, who had lost both their crops and livestock.

The province of Van was an important storehouse of the empire in the east. Being on the line of Ottoman-Iranian border and also near to the Russian border, the province of Van was obliged to feed thousands of soldiers. During the famine of 1879-81 in the

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[168] TNA: FO 424/106, no. 136, encl. 1, Erzurum, March 12, 1880 Everett to Trotter

district of Bayezid, "the whole of tithes" were exported to Van for the "substance of the Turkish troops concentrated there."[169] In his despatch dated October 9, 1880, the Vice-Consul Clayton of Van indicated that the government had "large stores of wheat, the produce of the tithe," and it was proposing to send "to agents round to find out what quantity is required in the various localities, and afterwards to provide what is necessary."[170] Indeed, it seems that government's storage system in Van was extensive.[171]

Very large and fertile plains in the province of Sivas and district of Malatya made this region the chief grain producer of the empire in the east. Those provinces fed the population of Diyarbekir and Mosul during the famine in 1880.[172] About 662 tons of wheat had been set aside for the province of Sivas itself. Although the grain from government stores saved the lives of thousands of people in the upper Mesopotamia, the authorities were exceedingly reluctant to release supplied locally in spring 1880. Out of

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[169] TNA: FO 195/1376, no. 3, Erzurum, February 18, 1881 Everett to Trotter
[170] TNA: FO 195/1237, no. 1, Van October 9, 1879 Clayton to Trotter; FO 424/91, no. 132, encl. 1, Van, October 9, 1879 Clayton to Trotter
[171] TNA: FO 195/1237, no. 19, Van, November 7, 1880 Clayton to Trotter
The governor of Malatya sent 100,000 *oke*s or approximately 120,000 kg of wheat to Diyarbekir. On the other hand, authorities in Sivas sent 300,000 *oke*s for Diarbekir and 200,000 *oke*s for Mosul.
[172] TNA: FO 195/1316, no. 7, Diyarbekir, March 3, 1880 Trotter to Salisbury

desperation, people plundered large grain stores of the government in Malatya[173] and another group actually beat government officers.[174]

Officials navigated a difficult path between stockpiling grain and distributing in times of need. Overall, the population continued to lack confidence in the government. This lack of trust had considerable impact on prices. In Erzurum province, for instance, shortly after the harvest of 1846, alarm prevailed that "a famine might ensue." Those who were better informed, discounted this speculation as information "propagated by designing persons, to enhance the price."[175] "Unusually abundant" crops in the surrounding districts of Erzurum and good organization of local authorities who ordered large supplies of grain from Muş, Kars, and Erzincan dissipated any further talk of scarcity in the city.[176]

In Erzurum, for instance, after the price of grain and flour rose "exorbitantly and bread became so scarce and so bad," the governor of the province "sealed the stores in town to ascertain the quantity in them." In addition to this, the governor also sent officials

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[173] For events in Malatya; Özge Ertem, "Eating the Last Seed: Famine, Empire, Survival and Order in Ottoman Anatolia in the Late 19th Century" (Ph.D., European University Institute, 2012), 87–95.
[174] TNA: FO 195/1316, no. 17, Diyarbekir, June 1, 1880 Trotter to Granville
[175] TNA: FO 78/703, no. 7, encl. 1, Erzurum, January 30, 1847 Brant to Palmerston "Report on the Trade of Erzeroom, and on the state of Pashalik, for the year 1846."
[176] TNA: FO 78/703, no. 7, encl. 1, Erzurum, January 30, 1847 Brant to Palmerston "Report on the Trade of Erzeroom, and on the state of Pashalik, for the year 1846."

to the surrounding districts to determine "whether the stocks there were large, as well as, to make purchases for the supply of the city."[177] Yet his policies were often greeted with fear and scepticism. The British consul observed that the "people were seriously alarmed lest a famine was imminent, which excited the greater surprise as it was universally believed that the stocks of grain were very abundant."[178] The pasha of Erzurum was probably correct in assuming that the fear of shortage of grain in the city was baseless and rumours were manufactured by certain interested parties.[179] Still it was said that "the pasha was in league with monopolies; that he made a large profit in the grain he brought, and that, until his stock was disposed of, the peasants were prevented from bringing theirs to market." [180]

Consular reports also noted the role of speculators in generating this panic, explaining: "artifices were employed to prevent the peasants from bringing their grain to market; and, for a few days, the plot succeeded; flour and bread rose enormously in price,

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[177] TNA: FO 195/284, no. 18, Erzurum, June 9, 1848 Brant to Canning; FO 78/752, copy, Erzurum, June 9, 1848 Brant to Canning
[178] TNA: FO 195/284, no. 18, Erzurum, June 9, 1848 Brant to Canning; FO 78/752, copy, Erzurum, June 9, 1848 Brant to Canning
[179] TNA: FO 195/284, no. 18, Erzurum, June 9, 1848 Brant to Canning; FO 78/752, copy, Erzurum, June 9, 1848 Brant to Canning
[180] TNA: FO 195/284, no. 18, Erzurum, June 9, 1848 Brant to Canning; FO 78/752, copy, Erzurum, June 9, 1848 Brant to Canning

and were procured with difficulty."[181] As fear of famine continued, certain people profited. For example, in the autumn of 1847 in Erzurum, it was speculated that the crop would fall short when, in fact, the harvest proved to be very good.[182] Inhabitants of Aleppo began to hoard grain in the autumn 1859, as soon as they heard that the stocks of grain were limited in the city.[183]

Panic also affected relations between different religious communities. Muslim, Christian, and Jewish grain dealers enjoyed different degrees of protection and patronage from provincial authorities and foreign consulates. For example, in the early stage of a great famine in 1880, the Christian and Jewish grain dealers in the town of Mosul,

> probably through fear of consequences, sold off their stores long ago, retaining only a little for their own consumption, and the only holders now are a few rich Moslems, who are too influential to be interfered with by the local authorities, and are able to retain their granaries untouched.[184]

Christian and Jewish grain dealers feared that in times of famine they would be the first group targeted by the population. It should be noted that unlike non-Muslim grain traders, rich Muslims, who probably had very close relations with local authorities and did not have any fear of being attacked, continued to hoard grain to take advantage of rising

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[181] TNA: FO 78/703, no. 7, encl. 1, Erzurum, January 30, 1847 Brant to Palmerston "Report on the Trade of Erzeroom, and on the state of Pashalik, for the year 1846."
[182] TNA: FO 195/284, no. 21, Erzurum, July 8, 1847 Brant to Cowley
[183] TNA: FO 195/595, no. 36, encl. 1, Aleppo, October 8, 1859 Skene to Bulwer "Report on the Quarterly Return of Prices of Agricultural Produce of Aleppo." dated September 30, 1859
[184] TNA: FO 195/1308, Mosul, January 19, 1880 Miles to Layard

prices. In fact, in the city it was "believed" that these men had "in concealment sufficiently suppl[lied] for the whole of population for many months." Such collusion, if it was to be believed, brought intervention from Istanbul, demanding that local authorities "call upon certain rich Moslems who were specified by name viz., Suleiman Bey, Abdulla Bey, Eunus Bey, Mahmoud Agha, and Hassan Serraf, to give an account of the grain held by them, and to send what they had into the market."[185] However, after a local investigation neither grain nor barley were found in their houses and shops. It is important to note that in searching for grain in the rural area, the officials discriminated between Muslim and Christian villagers.

In Aleppo, in the autumn of the 1864, the scarcity of wheat and shortage and expense of bread caused a great rise in tension among the population of the city. It seems that scarcity was attributed by the population "to the machinations of local speculators" who were accused of concealing a large quantity of crops to "ensue a rise in the value of grain." Thus several men, "both natives and Europeans," that were "suspected of such speculations" were "publicly" threatened by the populace. Anger against "foreign" grain dealers became concrete, while a French merchant who was supposed to have wheat concealed was several times was "openly insulted" in the streets of the town. One French merchant was beaten in public and received letters "threatening him with assassinations."

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[185] TNA: FO 195/1308, Mosul, January 19, 1880 Miles to Layard

Besides foreign and native grain merchants, the British agents from Aleppo did not speak well of local Christian merchants:[186]

> Its (distress) cause is not so much the dearth of grain, for the last year's harvest, though not first-class, was still not very much below the average, as the fact that the agricultural classes have no money wherewith to buy it. For the last three years the tithes and surplus produce have been bought up by a number of comparatively rich men, in the expectation of a rise in prices; and these men (Christians for the most part, I am sorry to say) will rather see their fellow creatures die of famine than give up a piastre of their anticipated profit. Last spring the great majority of the population had already disposed of their crops in payment of old debts even before the seed was sown, and, consequently, have not now the means of preparing for the coming season. This is where the shoe pinches most; for, now that spring approaches, they will probably be able to keep body and soul together for a time by eating grass and roots, as they had to do before. But, if no seed can be obtained, the outlook for next winter is indeed gloomy.[187]

Food shortages were a major factor in disturbances in the city of Diyarbekir. According to a document dated June 19, 1880, the lack of bread and rising prices in the town turned popular anger against certain members of *meclis*, particularly those who had contracted with *Vali* İzzet Pasha to deliver bread at fixed prices.[188] Townspeople knew that the city had been supplied more than enough grain from Harput and Sivas in the previous months. There was no reason then that the price of bread increased and the available supplies were of poor quality being "mixed with dirt and various impurities." A

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[186] TNA: FO 195/800, no. 13, Aleppo, October 12, 1864 Skene to Bulwer
[187] TNA: FO 424/145, no. 44, encl. 1, Erzurum, March 24, 1888 Wratislaw to White
[188] TNA: FO 195/1316, no. 2, Diyarbekir, June 19, 1880 Barnham to Trotter; FO 424/107, no. 18, encl. 1, Diyarbekir, June 19, 1880 Barnham to Trotter

crowd, composed chiefly of Armenian and Syrian Jacobite Christians, accused Kazazian Yusuf Efendi[189] and other members of the *meclis* of hoarding grain. In their petitions dated June 14, they demanded the removal of Yusuf Efendi, Hacı Mehmet Jerghis (Cergis?) Ağa, and Minasyan Ohannes Efendi among others; they also asked the city to repeal "the bread contract and permit the bakers to sell their goods without restrictions."[190]

The petitioners were refused an audience with the governor. After the third attempt, four of them, Christians and Muslims, were arrested by the order of *vali*. The arrest of four petitioners did not diminish the existing tension in the town. Yusuf Efendi, holder of the bread contract by order of the *vali*, asked the prosecutor to punish the petitioners. But the prosecutor (*adliye müfettişi*), Ferid Bey,[191] refused, stating that, "there was no law in this country to punish men for presenting a petition." Inturned the accusation back at Yusuf Efendi, accusing him of being the real culprit and one of those who "monopolized" the grain supply in the town. Yusuf Efendi attempted to take his case

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[189] According British documents; Kazazian Yusuf Efendi was the ex-parliament member of the Diyarbekir and Roman Catholic member of İdare Meclisi. He was "very wealthy, but one of the most unpopular men in Diarbekir." His brother, "Hoca Cebur," was also member of the meclis." TNA: FO 424/107, no. 184, encl. 2, Tarabya, October 26, 1880 Trotter to Goshcen

[190] TNA: FO 195/1316, no. 2, Diyarbekir, June 19, 1880 Barnham to Trotter; FO 424/107, no. 18, encl. 1, Diyarbekir, June 19, 1880 Barnham to Trotter

[191] For Ferid Bey's short biography and his effort in the province; Abdülhamid Kırmızı, "1880'de Diyarbekir Vilayetine Gelen İlk Adliye Müfettişinin Sergüzeşti," *Şarkiyat İlmi Araştırmalar Dergisi*, no. 8 (2012): 73–90.

to the court, but en route, he was stopped by a crowd of people who began to assail him with taunts and blows. Although Yusuf Efendi's life was saved by a police officer and he escaped the city, the mob grew and panic spread as the people moved to attack his home.

As the *vali* was "paralyzed by fear" and unable or unwilling to intervene, Ferid Bey stepped in to disperse the crowd. He managed the problem without violence. The heads of the local gendarmerie "refused to order the troops to fire; and by good advice, a word put in here and there, ultimately persuaded the people to disperse." Nevertheless, before they left, the crowd attacked the house with stones and three of the attackers were killed by shots from the house and fifteen were injured. Abdul Lahat, son of Deli Bahanan, nephew of "Chermuke Oghlu" a Syrian merchant of Diyarbekir, was one of the people killed by the son of Yusuf Efendi.[192]

Ferid Bey did not stop there. He took concrete steps to ensure that violence did not reoccur and to resolve the crisis. He sent messages to both the Muslim and Christian quarters promising bread the next day. He telegraphed a report on the events to the Ministry of Justice at Constantinople.[193] Overruling the orders of *vali* he sent guilty notables into exile. Ferid Bey also launched an investigation to understand the reasons for the shortfalls in bread. He found that there was only enough to feed the town for four

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[192] TNA: FO 195/1316, no. 2, Diyarbekir, June 19, 1880 Barnham to Trotter; FO 424/107, no. 18, encl. 1, Diyarbekir, June 19, 1880 Barnham to Trotter
[193] For Ferit Bey's report on the riot; Ertem, "Eating the Last Seed," 250–59.

days. It appears that all the grain that had been shipped from Harput and Sivas *vilayet* had disappeared. Thus the inspector took steps to secure further supplies from neighbouring provinces and sent telegraphs to the *vali* of Harput and the *mutasarrif* of Urfa asking for grain and troops. The *vali* of Harput sent 1,000 kilograms of wheat by removing the prohibition over the exportation of grain from the province due to the urgent situation in Diyarbekir, and *mutasarrif* of Urfa promised to send 25,000 *oke*s of wheat to "leave at once" and two "companies" of soldiers. The final action was to pressure the *vali* to dissolve the "non-permanent" members of *Vilayet Meclisi* and force a re-election. After everything, Ferid Bey arrested the son of Yusuf Efendi on a charge of firing one of the "fatal shots" that killed protestors.

This riot in 1880 was not a classical bread riot. The crowd was aware of the causes of the lack of bread in the city and made specific demands on the *vali* to solve the issue. When the *vali* refused, the prosecutor, Ferid Bey took charge. The actions of Ferid Bey included not only dispersing the crowd in a non-violent fashion but also dismissing the corrupt members of the local council. His actions amounted to supporting a popular overthrow of local government for corruption. The ability of the inspector to act in such a decisive way was surprising given the limited reach of the late Tanzimat State. That Ferid Bey would rise up in officialdom thereafter, attaining the highest bureaucratic position in the Ottoman Empire when he became the last grand vizier of Sultan Abdülhamid II (1878-1908), speaks to the fact that his actions met central state approval.

A Reassessment: Giving With One Hand and Taking with the Other?

In exploring this relationship of the state to the environmental crises experienced in Diyarbekir and throughout the broader region of Northern Syria, Kurdistan, and Iraq, this chapter has stressed that the Tanzimat was not a simple, straightforward process. As a set of reforms it affected many institutions as well as land tenure, property rights, and the welfare of the citizens of the empire. The degree of success was conditioned on many factors, not the least of which was the nature of pre-Tanzimat conditions prevailing the provinces themselves. In Diyarbekir, the state's attempt to implant new institutions was compromised particularly in rural areas where local elites, both Kurdish and Armenian still held predominant on-the-ground influence.

However, in other areas, the central state, whether on its own terms or under pressure from its citizens and their advocates inside and outside the empire, responded to crises affecting agriculture and food supply. In his book on Ottoman agriculture and animal husbandry, Binbaşı Hüseyin, a reformer in the field of agriculture, demonstrated intentions to emulate policies pursued by France in order to promote agricultural production and the raising of livestock.[194] As for actual policies, the Tanzimat Ottoman state attempted within limits to adapt to new and changing circumstances and develop strategies to help its citizens cope with environmental crises.

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[194] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*.

In terms of aid, over the nineteenth century Ottoman local and central state officials adopted different policies. They distributed seed and draft animals to peasants; supplied grain to major administrative and commercial cities; ordered the storing grain for times of food shortages; fed refugees from the countryside in urban centres; prohibited the exportation of grain and certain types of food from the famine-affected provinces or when necessary eliminating tariffs on imported wheat, barley, and millet; by monitoring or predicting shortages and measuring the stocks in rural and urban space; by restoring stolen livestock to their owners; through attempts to implement quarantine against disease.

It is still not clear how effective these measures were. Certainly, some of its policies, particularly in terms of taxation, negatively affected people in the region. A hierarchy of support prevailed. Some populations were favoured over others; cities took precedence over the countryside; Muslim refugees from Tsarist Russia were given more attention than ordinary Ottoman citizens, Muslim and Christian. As I described in chapter one, tribal populations were rarely considered on equal footing with the settled population. Indeed, most efforts to address the problems associated with domesticated animals and targeted animals used by the military for transport or for export wool.

While recognizing these limitations, it is also necessary to put Tanzimat policies in comparative perspective, particularly with regard to the British Empire. Despite their

superior means and organization, the British Empire's policies and philosophies of rule demonstrated a disregard for colonial populations and exacerbated the crises caused by ENSO-related environmental disruptions. They condemned the Irish to mass death by starvation and prompted large scale immigration.[195] The promotion of commercialized agriculture compromised the ability of South Asians to feed themselves. Globally, the abolishment of the Corn Law in 1845, subordinated consumers in its colonies to the food demands of the metropole and for export, including to the Ottoman Empire, deregulating the grain trade world-wide to detriment of the populations that grew it.

Notably, the Ottoman Empire pursued policies that were very different: unlike the British colonial government in India which destroyed the older measures which had served to combat shortage and hunger by storing grains, the Ottoman government continued to protect its own populations by preventing the export of needed grain from famine-stricken region and redirecting surplus to regions where it was needed. That is, in times of need, especially during the great hardships of the last two decades of the nineteenth century, the Ottoman state and its officials repeatedly made earnest if flawed and constrained efforts to be a government accountable to its citizens.

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[195] For maladministration of British Empire during the Irish famine; Christine Kinealy, *The Great Irish Famine: Impact, Ideology and Rebellion* (London: Palgrave Macmillan, 2002).

Chapter 5

Conclusion

In 1891 Kurdish tribesmen from Van, Erzurum, and Diyarbekir province were invited to join the first regiments of the newly formulated Ottoman cavalry named after Sultan Abdulhamid II (r. 1878-1908).[1] The Miran, Haydaranlı, Hartoshi, and Millu confederation enlisted in what would later be called the Hamidiye Light Cavalry (*Hamidiye Süvari Alayları*). It is no coincidence that these groups readily accepted the sultan's offer. They were struggling to survive. With their herds decimated by years of unfavourable weather and little pasture, their livelihoods and culture teetered on the verge of collapse. Istanbul's offer presented an opportunity for these confederations and individuals to regain wealth. As paid soldiers of the state, they would receive a regular salary and would gain status. Even today, Sultan Abdulhamid II is known as "*Bave Kurdan*" (Father of Kurds) in the Kurdish regions of Turkey.

These confederations lived and travelled across a geopolitically sensitive border region.[2] Some spent their summers in the northern provinces of Van and Erzurum, on the Ottoman border with Iran and Tsarist Russia. Other tribes lived along the main line of

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[1] For Hamidiye Light Cavalry regiments; Janet Klein, *The Margins of Empire: Kurdish Militias in the Ottoman Tribal Zone* (Stanford: Stanford University Press, 2011).
[2] See also Sabri Ateş, *The Ottoman-Iranian Borderlands: Making a Boundary, 1843-1914* (Cambridge: Cambridge University Press, 2013).

communications that linked the Black Sea with the Gulf, through Mosul and Baghdad; still others migrated seasonally from the Iranian border in the east. Diyarbekir province was the crossroads for many of them and a zone of strategic resources for the Ottoman military, including wheat, pack animals, and copper.

Chapter two focused on the important ENSO episodes and their aftershocks in the form of locust and epidemics that swept through the greater province of Diyarbekir in the 1840s and 1880s. Shortage of rainfall caused crop failure, rising prices, scarcity of food, and finally famine. Thousands of peasants left their homeland and migrated to major cities in search of food, which was provided by the local government, imperial agents, wealthy urban residents, relief committees, and missionaries. Some peasants became nomads for a type while the majority survived on what could be foraged, including acorns, plant roots, grass, and grape skins. Peasants with some flocks and draft animals slaughtered them for food or sold them in the market before they perished from starvation. Relief measures, through both central and local Ottoman government, as well as private and missionary agencies, took the form of supply of seeds and in some cases livestock such as oxen for ploughing the soil. With this assistance, peasants who had not fled their fields were at least partially able to regain self-sufficiency in one or two sowing seasons after the drought.

The region of Diyarbekir was also home to another important economic activity. Chapter three described the pastoralists' economy, which revolved around the herding of

sheep, goats, camels, horses, and mules. Herds furnished these families not only with food, clothing, housing materials, and income (in the form of animal products such as yogurt, cheese, butter, wool/mohair, skins and meat) but also served as the basis for capital accumulation, status, and power. Repeated anomalies in weather patterns during the nineteenth century caused shortfalls of rain and constriction of pasturing lands, and thus significantly affected the productivity and fertility of animals in the region. During the winter of 1879-1880, the combined effects of severe cold and scarcity of grasses and forage resulted in enormous losses of herd animals throughout Ottoman Asia. Exports of animal products from the region fell dramatically. While peasants fled into the cities for relief or resettled in other farming areas, pastoralists began to raid caravans and villages to appropriate animals from other tribes to reconstruct decimated herds.

Chapter four examined the Ottoman central and local governments' response to these crises. It demonstrated that officials did not ignore these crises, although their actions were not sufficient to avert severe hardship, peasant flight or conflict over scarce resources. They were perhaps most consistent and their attempt to prevent recurrence of locusts through policies aimed at the collection and destruction of insect eggs. In general aside from the availability of credit, government reforms did not reach the countryside or if they did, they helped to consolidate the power of elites and strongmen, both Muslim and Christian.

A critical finding of this study is that pastoralists and peasants felt the long-term effects of episodes of environmental crisis in the Ottoman east differently over the late nineteenth century. The periodicity of episodes of drought or severe cold, particularly the last two decades of the century, undermined the relative compatibility of the economic activities of pastoralists and peasants. While the period between the climate crises of 1844-46 and 1879-80 provided both pastoralists and peasants with sufficient time to recover, from 1879 onward both groups experienced repeated and ongoing hardships caused by environmental crises ranging from severe cold to prolonged drought and infestations of locusts that destroyed fields and pastures. Thus, the drought of 1879 was followed by a severely cold winter in 1880 and then, within less than a decade – far from sufficient time to reconstitute their breeding stock -- further droughts in 1887-88 and in 1891-93, were catastrophic for both groups, but particularly for pastoralists. Besides the immediate loss of life both human and animal, pastoralists competed with peasants for water and pasture and resorted to violence to restore their herds and flocks.

Thus environmental crises, particularly the major events that correlated with the ENSO cycles globally, brought pastoralists into confrontation with peasants. In order to feed their animals, many pastoralist tribes, especially those living in the same ecological zones with peasants, took their livestock into peasants' fields. This situation triggered the gradual expansion of a low grade conflict, or what may be termed 'slow violence' in Ottoman Kurdistan that sharpened the cleavages between the dominant group of

Armenian peasants and the largely Muslim Kurdish pastoralists. The longer recovery period for herds also forced pastoralists to seek alternate sources of income and wealth. Some pastoralists attempted to settle, but limited irrigation and arable lands meant the rise of conflict over access to land and water resources, especially as the state began settling refugees from Tsarist Russia on the better lands. Others resorted to rustling which became a common phenomenon in the region. The livestock of the Armenian peasantry became the first target, and subsequent attempts to retrieve plundered animals or punish tribes by local officials did not de-escalate the brewing tensions.[3]

A second conclusion that may be drawn from this study of environmental crisis and the pattern of intervention in local crises by Tanzimat officials is that Ottoman policies on the ground articulated according to a 'hierarchy of concern'. This unequal distribution of relief was in large part a consequence of the residual "provisionist" economic policy of the Ottoman state; that is, an understanding of state responsibility to provide a plentiful supply of goods and services toward areas of greatest political and fiscal significance, particularly administrative and commercial cities that provided the state with significant revenues and manufactures.[4]

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[3] For a contemporary account of inter-communal conflict caused by animal trespass, see Beth Roy, *Some Trouble with Cows: Making Sense of Social Conflict* (Berkeley: California University Press, 1994).

[4] On the topic of provisionism, see Mehmet Genç, *Osmanlı İmparatorluğu'nda Devlet ve Ekonomi* (İstanbul: Ötüken, 2000).

Thus in Diyarbekir, it was the cities with their Muslim and Christian elites in provincial *meclis*, religious sheiks, members of *ulema*, and local administrators, who were situated on the top of the late Ottoman hierarchy of concern. The peasantry, came second, particularly the Muslim war refugees who were settled often at the expense of Armenian and Kurdish peasants on fertile lands with abundant water sources. To the extent that the Tanzimat reforms generally were aimed at regularizing taxation, the state and local government officials paid attention to the agricultural crises by loaning farmers seed to plant and forcibly returning villagers to their native lands. Support for peasants continued and was augmented by external pressure before and after the Russo-Ottoman War of 1877-78, when improving the condition of the Armenian peasantry by ending the pattern of exploitation exerted by local authorities (governors, gendarme, and *zaptiye*) as well as local magnates and tribal leaders became a condition of the Treaty of Berlin (1878).

Particularly during the early phases of the implementation of the Tanzimat reforms in Ottoman Kurdistan that coincided with military efforts to repress Bedirhan Bey and his allies among the tribes,[5] pastoralists remained at the lowest rung of the

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[5] For earlier events of Kurdish resistance to central state control, see M. Fahrettin Kırzıoğlu, "Kara-Amid`de 1819 Da A`yandan Şeyhzadeler`in Öncülüğünde Millü Deli-Behram Paşa`ya Karşı Ayaklanma ve Sonucu," *Kara-Amid Dergisi* 2–4 (58 1956): 350–78; Zozan Pehlivan, "State-Tribe Relations and the *İhtilal* of 1819 in Diyarbekir," in *Tribes, Peasants and Merchants: Social Transformation in the Eastern Provinces of the Ottoman Empire in the Nineteenth Century* (Middle East Studies Association 47th

imperial hierarchy. Viewed through the lens of its own 'civilising project' and what Thomas Kuehn terms the "politics of colonial difference," such mobile populations were viewed with a mixture of suspicion and condescension. Given their strategic assets in the form of horses, camels, and mules as well as arms that could be used against the state, they had not been accorded any direct assistance.[6] These policies changed after 1880, as the Sublime Porte realized that they might serve the state in a new capacity.[7] By creating such regiments, Sultan Abdulhamid II sought to sustain their allegiance to Istanbul, even as the British, Russians, French, and even Iranians made overtures to them. Given the crises and the increasing volatility of relations between peasants and pastoralists, the creation of such units would have other consequences. These paramilitary groups took full advantage of their appreciation of the economic and cultural peculiarities of the region and the vulnerabilities of peasant populations. Plunder was granted impunity by the state. The anti-Armenian pogroms that took place across the Ottoman East between 1894 and 1896[8] represented the culmination of the disparities in the impact of the

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Annual Meeting, New Orleans, 2013); For a different approach, see Ariel Salzmann, *Tocqueville in the Ottoman Empire: Rival Paths to Modern State* (Leiden: Brill, 2004), 191–93.

[6] Thomas Kuehn, *Empire, Islam, and Politics of Difference: Ottoman Rule in Yemen, 1849-1919* (Leiden: Brill, 2011).

[7] Klein, *The Margins of Empire*, 28.

[8] See among others, Selim Deringil, "'The Armenian Question Is Finally Closed': Mass Conversions of Armenians in Anatolia during the Hamidian Massacres of 1895–1897," *Comparative Studies in Society and History* 51, no. 02 (2009): 344–71; Nadir Özbek, "The Politics of Taxation and the 'Armenian Question' during the Late Ottoman Empire,

environmental crises of the previous decades and governmental policies that exploited these differences for political advantage.

In conclusion, my dissertation has sought to contribute to several fields of nineteenth century historiography. In terms of Middle East history, generally, it points to the need to bring the environment and climate change back into our understanding of lives of peasants and pastoralists, as well as into the history of cities and empires. As an effort to revisit central state responses to crises in a distant area of the Ottoman Empire in a period of internal turmoil and increasing Western and Russian military and economic pressure, my research provides a more complete account of the challenges that Ottoman administrators faced in attempting to meet the needs of regions affected by locust infestations, crop failure, animal losses, and diseases. Finally, by describing the impact of El Niño cycles on a region that was home to very different strategies of adaptation to resources and geography, I hope to have demonstrated that the pace and conditions for recovery for farmers and nomadic pastoralists were significantly different. It is this finding, in particular, that may prove most useful for future researchers of world-historical regions that were home to both agriculturalists and herding communities. For Ottoman historiography, it should prompt us to reconsider purely cultural (or static socio-

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1876–1908," *Comparative Studies in Society and History* 54, no. 04 (2012): 770–97; Joost Jongerden, "Elite Encounters of a Violent Kind: Milli İbrahim Paşa, Ziya Gökalp and Political Struggle in Diyarbekir at the Turn of the 20th Century," in *Social Relations in Ottoman Diyarbekir, 1870–1915*, ed. Joost Jongerden and Jelle Verheij (Leiden: Brill, 2012), 55–84.

economic) models -- such as the conflict "between the desert and the sown" -- in our search to understand the roots of the inter-communal violence that shook regions like Diyarbakir at the end of the nineteenth century.

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Appendix A

Administrative Boundaries of Diyarbekir Province over the 19th century

1831	1869	1877	1882-83	1894	1905
Diyarbekir	Amid	Diyarbekir	Diyarbekir	Diyarbekir	Diyarbekir
Hani	Ergani	Lice	Lice	Derik	Beşiri
Mazgird	Madeni	Silvan	Silvan	Lice	Derik
Mefarkin	Lice	Malatya	Malatya	Silvan	Lice
Harput	Re'sulayn	Akçadağ	Akçadağ	Siverek	Silvan
Sincar	Silvan	Behisni	Behisni	Maden-i	Siverek
İs`ird-Esferid	Siverek	Hısn-ı	Hısn-ı	Ergani	Maden-i
Siverek	Malatya	Mansur	Mansur	Palu	Ergani
Ergani	Akçadağ	Kahta	Kahta	Çermik	Palu
Atak-Anade	Hısn-ı	Mardin	Mardin	Mardin	Çermik
Hısnı Keyf	Mansur	Avine	Avine	Avine	Mardin
Çemişgezek	Kahta	Cizre	Cizre	Cizre	Cizre
Nusaybin	Behisni	Midyat	Midyat	Midyat	Midyat
Çapakçur	Ma'müretü'l-	Şırnak	Nusaybin	Nusaybin	Nusaybin
Sağman	aziz	Siird	Şırnak		Savur
Çermik	Arapkir	Eruh			
Kulb	Çarsancak	Redvan			
İlkis	Eğin	Sason			
Penbek	Keban	Şirvan			
Pertekrek	Madeni				
Palu	Palu				
Kih	Mardin				
Cizre	Midyat				
Eğil	Cizre				
Hazzo	Nusaybin				
Tercil	Siird				
Savur	Eruh				
	Garzan				
	Sason				
	Şirvan				

Sources: Sources: Fazila Akbal, "1831 Tarihinde Osmanlı İmparatorluğunda İdari Taksimat ve Nüfus," Belleten 15, no. 60 (1951): 617–28. Sâlnâme-i Vilâyet-i Diyarbekir, Vol. I-XX. Diyarbekir: Diyarbekir Vilayet Matbası, 1869-1905.

Appendix B

Characteristics and Environmental Adaptation of Domesticated Herd Animals in Diyarbekir

Sheep and Goats

Sheep and goats proved to be the key animal resources in the Ottoman Kurdistan region because they are were the most profitable livestock for its economy. Sheep and goats are anatomically and biologically suited to the region's environment and climate. They produce various resources including meat, wool, and milk. They are specifically well suited for the nomadic and semi-nomadic Kurdish and Arab tribes in the province of Diyarbekir and upper Mesopotamia because they are easy to herd in large numbers. The high quantity and good quality of sheeps and goats in the region reflect the ideal environmental and climatic conditions of this region for these breeds.

The anatomic structure of sheep, specifically its mouth and long-sharp teeth, are helpful for reaching very short grass, especially dry forage and hay. This separates them from other livestock, and the sheep are able to find sufficient nutrients in an area where other animals are starving.[9] The sheep's strong legs and hooves are advantageous for its mobility, aiding in their ability to find food.[10] Sheep can walk 7-20 kilometres a day, which is especially beneficial in an environment where there are not sufficient grasslands, such as in the steppe lands of central Anatolia.[11]

The White Karaman (*Akkaraman*) and Red Karaman (*Kızıl Karaman* or *Morkaraman*) are two major sheep breeds of Upper Mesopotamia and Central Anatolia. They are fat-tailed

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[9] Selahattin Batu, *Koyunculuğun Esasları* (Ankara: Rüzgarlı Matbaa, 1962), 1, 11.
[10] Ibid., 11.
[11] L. Özcan, *Koyunculuk* (Ankara: Tarım Orman Köyişleri Bakanlığı Yayın Dairesi Başkanlığı, 1990), 12.

sheep breeds and strive "under the poor feeding and extreme climatic conditions."[12] These sheep breeds are biologically similar, except the colour of their wool, which can be black or brown. Herders often prefer to breed the Red Karaman because of the colour of its wool, which does not have to be dyed.[13] Additionally, the Red Karaman sheep breed have a stronger immune system against cold weather than with the White Karaman, and can therefore survive in plains situated at a high elevation, even reaching up to 2000 meters.[14] These types of sheep breeds require about 1.5 kilograms of fodder daily, while their lambs demand about 2 kilograms of grass.[15] Additionally, their water demand in the pastureland is between two to five litres and it decreases by more than half in barn. For sheep, particularly herds in barn, the first fifty days of spring marks the period of recovery in order for them to gain their pre-winter weight and strength. Scientists identify the early spring period as the most important phase for sheep to recapture their physical strength.[16] In order to understand the impact of drought and severe cold on herds and herders, it is important to examine the biological, anatomical, and physical characteristics of the White Karaman sheep breed. The following paragraphs identify the characteristic aspects of this sheep breed and then examine the major areas in which they were bred in herds during nineteenth-century Ottoman Kurdistan.

Semi-arid climatic conditions are the best for breeding sheep and goat. Average temperatures are around +21 and +23°C during the hottest month, and around 0 - (-3)°C during the coldest month.[17] Sheep demand more feed when the temperature is between -15°C and +10°C, because these temperatures are sufficiently lower than the sheep's own body temperature, which causes disturbances to its blood circulation. In conditions where the temperature is above 30°C,

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[12] B. C. Yalçın, *Sheep and Goats in Turkey*, 60 (Rome: Food & Agriculture Organization of United Nations, 1986), 31–32.
[13] Selahattin Batu, *Doğu İlleri Hayvancılığı* (Ankara: Ankara Üniversitesi Veteriner Fakültesi Yayınları, 1953), 46.
[14] Walter Spöttel and Kadri Bilgemre, *Türkiye koyunculuğu hakkında etüdler* (Ankara: Yüksek Ziraat Enstitüsü, 1937), 10–11.
[15] Ibid., 7.
[16] Ibid., 6.
[17] Yalçın, *Sheep and Goats in Turkey*, 4.

the sheep's respiratory system works more efficiently than usual. This triggers breathing difficulties and forces the sheep to lie still and remain lethargic. In semi-arid climatic conditions, annual precipitation remains approximately 400 millimetres, and this number decreases to less than 300 millimetres in the summer time. Although sheep can tolerate a wide range of temperatures, they are very susceptible to wind and rain, and therefore need to be protected from these two climatic phenomena.[18]

Although they are well adapted to semi-arid climatic conditions and environments, sheep herds are exceptionally vulnerable when it comes to severe cold, drought, and abnormally heavy heat. On average the weight of a one to one and a half year old ewe or ram is about 38-39 kilograms, and they continue to gain weight until the age of six or seven. The adult weight of an ewe or ram is usually over 45 kilograms.[19] Under the best feeding conditions, the alive-weight of a White Karaman can reach up to 80-85 kilograms with its tail-fat at about 4-6 kilograms.[20] The weight of sheep fluctuates, as it is changes based on the climatic conditions. Sheep are heavier after the summer because of the comfortable accessibility of food, lambing, and milking.[21] It is possible, however, that this was not common among herds that belonged to tribes as a result of their seasonal migration between summer and winter pasturages. Under good feeding conditions the alive-weight of the White Karaman can reach up to 80-85 kilograms, with its tail-fat reaching approximately 4-6 kilograms.[22]

The pregnancy period for a sheep is five months. Each pregnancy can result in anywhere from one to three offspring. Under maximal food conditions, the ewe can be pregnant two times in a year without impacting her future fertility.[23] However, "a long period of high ambient temperatures inhibits reproduction and heat stress also reduces lambing percentage, decreases the

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[18] http://www.fao.org/docrep/s1250e/s1250e10.htm, Electronic document, accessed March 23, 2015.
[19] Spöttel and Bilgemre, *Türkiye koyunculuğu hakkında etüdler*, 23.
[20] Batu, *Doğu İlleri Hayvancılığı*, 45–6.
[21] Spöttel and Bilgemre, *Türkiye koyunculuğu hakkında etüdler*, 24.
[22] Batu, *Doğu İlleri Hayvancılığı*, 45–6.
[23] Batu, *Koyunculuğun Esasları*, 11.

incidence of twinning, and decreases the birth weight of lambs. When temperatures are below 7°C at breeding time, ewes show improved reproductive efficiency."[24] The sheep is sheared biannually, and the quality and quantity of wool is largely determined by its nutrition. The quality of grass and fodder directly impacts the wool's growth in the spring-summer season and the spring-autumn period. The climate also plays an essential role on the length and thickness of the sheep's wool.[25] Age is also a factor that influences wool growth and productivity. Sheep produce the best quality and quantity of wool when they are two to three years old.[26]

The mating period is different for sheep depending on their inhabited region. In upper Mesopotamia the best mating period was early October and November, when the heat was not too much or little and the tribes had reached their winter pasturages.[27] At the end of the fifth month, which is generally March or early April, and a few weeks before the seasonal migration to summer pasturages, the lambing process began. The length of the winter season, the amount and kinds of rainfall, as well as the components of seasonal winds, play a determinative role on the pregnancy and lamb. In the province of Diyarbekir lambing occurred in March and April while there was enough sunlight and sufficient grass in the ground, which fed the newborn livestock.[28] Sheep lambs born in the spring are very vulnerable to flu and parasites, which results in a high mortality rate. The parasitic occurrence is determined by the weather, where parasites increase when the weather is cold and very rainy during the first weeks of the lambing.[29] As will be shown in coming sections, cold in the first week of birth likely triggered death among sheep during the spring of 1880.

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[24] *Farm Structures in Tropical Climates* (Rome: Food and Agriculture Organization of the United Nations and the Information Network on Post-Harvest Operations, 1988).; http://www.fao.org/docrep/s1250e/s1250e10.htm, Electronic document, accessed on March 23, 2015:
[25] Batu, *Koyunculuğun Esasları*, 52–3.
[26] Ibid., 59.
[27] Ibid., 351.
[28] Spöttel and Bilgemre, *Türkiye koyunculuğu hakkında etüdler*, 9; Batu, *Koyunculuğun Esasları*, 352.
[29] Batu, *Koyunculuğun Esasları*, 352.

The sheep were bred and herded in the following provinces: Hakkari, Bitlis, Erzurum, Mamüretülaziz, Diyarbekir, Adana, Konya, and Ankara. The sheep were large-sized, fat-tailed and medium-weight types of the *karaman* sheep breed. The sheep produced an average amount of wool and their meat quality remained lower than the thin-tailed *kıvırcık* breed. Under the best - feeding conditions its weight was about 20-35 *kiyye*.[30] There were two different types of *kilitli* sheep bred in the provinces of Mosul and Baghdad. The first breed was large-sized and thin-tailed, while the second breed was medium-sized and fat-tailed with long hair. The sheep bred in Syria, Aleppo, Adana, and Diyarbekir provinces were longhair, medium-sized and fat-tailed.[31] The Red-Karaman was generally bred in the northeastern provinces of the Empire, with Erzurum, Erzincan, Beyazıd and Van being the major places for this breed.

The White Karaman were the largest sheep breed in the Diyarbekir province, followed by the Red Karaman.[32] *Hamdani*, *ivesi*, *karakaş*, *zom*, *şavak* and *koçeri* were various types of Karaman bred in different districts of the Diyarbekir province.[33]Among these breeds, the i*vesi* and *karakaş* are the most common in the southern and western areas of the province, particularly around Mardin and Urfa, as well as northern Syria.[34] These breeds were famous for their very large fat-tail, which provided enough nutrition for an animal to survive in bad times, particularly extreme climatic conditions. The *zom*, which is found particularly in the surrounding area of Karaca Mountain, Siverek, and Viransehir,[35] are created through the crossbreeding of *ivesi*, *akkaraman* ve *karakaş* in the 1800s.

Under the best conditions, a White Karaman sheep can produce one kilogram of milk in a

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[30] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 39.
[31] Ibid.
[32] Batu, *Koyunculuğun Esasları*, 99.
[33] Halit Deniz Şireli, "Tüm Yönleri ile Akkaraman Koyunları" (Ankara Üniversitesi Fen Bilimleri Enstitüsü, 1996).
[34] Batu, *Koyunculuğun Esasları*, 237.
[35] Seyrani Koncagül et al., "Zom Koyunlarının Morfolojik Özellikleri," *Kafkas Üniversitesi Veteriner Fakültesi Dergisi* 18, no. 5 (2012): 829–37.

day.[36] The lactation period for a sheep is approximately 3.5 to 4 times per month. [37] The quantity and quality of fresh grass and fodder, as well as the weather conditions, play an integral role in the milk production of sheep. For example, sudden changes in weather, such as rain, cold, very heavy heat or sandstorms, cause a reduction in the amount of milk produced.[38] The milking period is longer in the *ivessi*/*awassi* breed.[39] The White Karaman breed gives about 1-2 kilograms of wool annually.[40] The wool of the *ivesi* breed is thinner and cleaner than the others breeds. In the nineteenth century wool market, the wool of the *ivesi* was the most expensive wool type in the province of Diyarbekir, Mosul and Aleppo because it was preferred by European merchants.

Hair-goat and Angora were the two main goat breeds of the Diyarbekir province. Unlike sheep, the goats were raised in the mountainous, brushy, rugged, and rainy areas of the Empire.[41] Mountainous parts of the Diyarbekir province, particularly around the district of Siird, Bohtan, Cezire, Mardin, and Midyat, were the major Hair-goat and Angora goat breeding areas. The district of Cezire was the chief Angora goat breeder of Ottoman Kurdistan.[42] Shrubs, bushes, forests, and woodlands were the main sources of their nutrition. They were moved between summer and winter pastures. The time of mating, lamping, and shearing was dependent on the climatic and environmental conditions, which was also similar to sheep in different regions.[43] The colour of their hair is generally black, although some of them are white, brown or grey.[44] Their bodies are large and their average weight is around 40-45 kilograms.[45] The length of the goats'

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[36] Spöttel and Bilgemre, *Türkiye koyunculuğu hakkında etüdler*, 9.
[37] Ibid.
[38] Ibid.
[39] Yalçın, *Sheep and Goats in Turkey*, 17.
[40] Selahattin Batu, *Doğu İlleri Hayvancılığı* (Ankara: Ankara Üniversitesi Veteriner Fakültesi Yayınları, 1953), 45.
[41] Ibid., 77.
[42] TNA: FO 195/799, no. 9, encl. 1, Constantinople, July 13, 1864 Taylor to Bulwer "Report on the Trade of Diarbekr and Koordistan for the Year 1863." dated Diyarbekir, March 31, 1864
[43] Ibid., 80.
[44] Batu, *Doğu İlleri Hayvancılığı*, 80–81.
[45] Ibid., 84; Yalçın, *Sheep and Goats in Turkey*, 81.

lactation period is between three and four months, but can sometimes (though rarely) occur for six months. Generally speaking, the goat produces about 60-70 kilograms of milk yearly.[46] However, in superior grazing areas and under the best feeding conditions, the amount of milk produced can increase by close to 90 per cent.[47] The annual hair product of nannies and bucks are different, usually producing anywhere from one to three kg respectively. According to Selahattin Batu, the amount of hair produced by goats from mountainous areas is greater than that produced by goats in the plains and steppes.[48]

Weather patterns play a key role in the health of goats. For example, they need shelter and protection from high temperatures and rain or else they are prone to infection and parasites.[49] Unlike the Angora hair goat, which is able to tolerate severe cold in winter and heavy heat in summer, the hair-goat must be bred in districts where winter temperature is not too low or severe.[50] In comparison to the hair-goat, which was able to survive easily in the hilly, mountainous, and rugged areas, the Angora goat must be bred mainly in flat pastures. It is for this reason that the districts of Midyat and Cezire were the main areas where the Angora goats were bred in great numbers.[51] The hilly terraces and oak forests in the district of Bohtan were not suitable for herding sheep, as explained above, but remained an important hair-goat breeding district in the province.[52]

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[46] Batu, *Doğu İlleri Hayvancılığı*, 86; Yalçın, *Sheep and Goats in Turkey*, 80.
[47] Yalçın, *Sheep and Goats in Turkey*, 80; Batu, *Doğu İlleri Hayvancılığı*, 85–6.
[48] Batu, *Doğu İlleri Hayvancılığı*, 86.
[49] *Farm Structures in Tropical Climates* (Rome: Food and Agriculture Organization of the United Nations and the Information Network on Post-Harvest Operations, 1988). ; http://www.fao.org/docrep/s1250e/s1250e10.html, Electronic document, accessed March 23, 2015.
[50] Batu, *Doğu İlleri Hayvancılığı*, 78–79.
[51] Sâlnâme-i Vilayet-i Diyarbekir, Defa 12, 1302/1885.
[52] Hüseyin Saraçoğlu, *Doğu Anadolu Bölgesi* (Istanbul: Milli Eğitim Bakanlığı, 1989), 130.

Although goats were bred in every part of the Empire, they were mostly bred with sheep herds in the in provinces of Diyarbekir, Bitlis, Hakkari, Dersim, Bingöl, Erzurum, and Konya.[53] Angora goats were bred in great numbers in the district of Siird, particularly in the surrounding area of Hizan Valley, and their hair was primarily used to produce a type of famous local scarf. [54] According to some sources, there was a goat breed that had long hair like the Angora goats in the Murad River Valley, and especially in the surrounding area of Ziyaret village of Muş district in the Bitlis vilayet.[55]

Cattle-Buffalo

Cattle were an important source of livestock and they were raised for their meat and dairy products, as well as for pulling ploughs in agricultural areas and in the transportation sector of some regions. The average weight for cattle between the ages of four and eight is about 250 to 350 kilograms, while the weight of an oxen or bull of the same age can be more than 500 to 600 kilograms.[56] On average, cattle daily milk production varies from 8 to 10 kilograms, and under good feeding conditions they can produce more than 2,000 litres of milk annually. The lactation period in dairy cattle is longer than goats and sheep, and can last for anytime between six and eight months.[57] The cattle breed survive on natural grazing pastures most of the year, and are kept in a barn for 4 to 5 months during the winter season, depending on the region. The cattle feed on hay and barley in the winter. On average, cattle demand more than 5 to 6 kilograms of green grass or hay daily. Interestingly, unlike sheep that are able to save great amounts of fat to survive in bad conditions, cattle cannot tolerate shortages of food and high temperatures. It is for this reason that "cattle make their best gains at temperatures below 25°C. and they can easily tolerate

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[53] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 37–6.
[54] Saraçoğlu, *Doğu Anadolu Bölgesi*, 98.
[55] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 35.
[56] Batu, *Doğu İlleri Hayvancılığı*, 36.
[57] Ibid., 37.

temperatures below 0°C if they have a good supply of feed."[58] Providing cattle with a sufficient amount of food in low temperatures is crucial for cattle to survive.

The flat and rich pastures of the northeast and eastern provinces of the Empire were the major breeding areas for cattle. Erzurum, Dersim, and Bitlis covered high nutritious fodder, and were important cattle breeding areas in the Ottoman Kurdistan.[59] In these provinces cattle were bred in herds. This type of animal has difficulties surviving in the rugged terrains and poor steppe areas. It is for this reason that there were relatively few cattle bred in the southern parts of the Diyarbekir province.[60] According to Selahattin Batu, there were two indigenous or local grazing cattle breeds in the region, the East Anatolian Red (*Doğu Anadolu Kırmızısı*) and the Black Cattle breed.[61] Cattle in the plains of Erzurum and Kars were large-sized, short-horned and usually had high blood pressure. The size of both breeds in the plains of Erzurum and Kars was larger than those in the provinces of Diyarbekir and Harput. This is largely due to the low-quality feed and the lack of nutritious feed in the latter two provinces.[62]

It is important to note that cattle were important factors in the household economy of peasants because of their dairy milk and ploughing power.[63] Around Mardin and Diyarbekir, bullocks, for instance, were never used as pack animals but were commonly employed as draft animals.[64] Oxen and cows were "rarely" slaughtered for food "unless [they were] too old to work", and the according to some sources oxen meat was only consumed by the poorest classes in

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[58] *Farm Structures in Tropical Climates* (Rome: Food and Agriculture Organization of the United Nations and the Information Network on Post-Harvest Operations, 1988).; http://www.fao.org/docrep/s1250e/s1250e10.htm Accessed on March 23, 2015:
[59] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 41–40.
[60] Saraçoğlu, *Doğu Anadolu Bölgesi*, 484.
[61] Batu, *Doğu İlleri Hayvancılığı*, 34–40.
[62] Ibid., 100, 102.
[63] Ibid., 100–102.
[64] TNA: WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia*" Compiled in the Intelligence Division of the War Office by Captain C. E. Callwell, Vol. II (London: Harrison and Sons, 1892), 49.

the region.[65] This may have to do with the fact that their carrying capacity was less than mules and their pace was exceptionally slow. Agriculturalists, much more so than traders, were highly dependent on cattle, oxen, and cows. Besides providing fertilizer, cattle dung was used by the inhabitants of Kurdistan as fossil fuel,[66] especially in the northeast provinces where winter was longer and colder.

Draught Animals: Horses, Mules and Camels

There were seven types of horse breeds in the Ottoman Empire. The Bulgarian and Bosnian horses were bred in the European side of the empire; whereas the Asian part of the empire had many different horse breeds, such as the Anadolu (Anatolia), Çukurova (Cilicia), Kurdistan, Arabistan (Arabia), Necd (known as *Küheylan*), and others. According to Binbaşı Hüseyin's study, northern Mesopotamia, particularly the provinces of Baghdad, Diyarbekir, and Aleppo, were major horse providers of the Empire. The Delim, Şammar and Anaza tribes of the Baghdad province were breeds of horses put on the market but were also presented to the Ottoman Sultan as a gift. The western district of Urfa and Mardin proved to be the most important horse breeders of the Empire.[67] Horses were able to survive comfortably in a semi-arid climatic environment. Although horses can tolerate high temperatures, they cannot endure draughts, dampness or high humidity.[68] Additionally, heavy rain conditions decrease the horse's ability to perform as well their physical strength.

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[65] TNA: FO 195/459, no. 13, encl. 1, Diyarbekir, March 31, 1857 Holmes to Redcliffe
[66] F. R. Maunsell, "Eastern Turkey in Asia and Armenia," *Scottish Geographical Magazine* 12, no. 5 (1896): 230.
[67] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 43–44. Adana, Mosul, Bitlis, Harput and Erzurum were also provinces that specialized in breeding horses.
[68] *Farm Structures in Tropical Climates* (Rome: Food and Agriculture Organization of the United Nations and the Information Network on Post-Harvest Operations, 1988). ; also http://www.fao.org/docrep/s1250e/s1250e10.htm Accessed on March 23, 2015:

Western Kurdistan, Iraq, and Arabia were the horse pool of the empire. Cavalry horses, which served as the army's backbone, were bred in herds particularly in Syria, Aleppo, Adana, Baghdad, Mosul, Diyarbekir, Mamüratülaziz (old Harput), Van, Erzurum, and Sivas provinces.[69] According to the yearbook of Diyarbekir dated in 1885, the best horse breeds in the Ottoman Empire found in Western Kurdistan and the districts of Mardin, Cezire, and Siverek bred horses and mares in great numbers.[70]

Mules

Mules are not a species or breed, "but a hybrid offspring of a donkey and a horse." They are short-footed, strong animals that can live longer than horses. Mules are slower than horses but faster and stronger than donkeys. The body weight and body size of mules remains constant after they are two years of age.[71]

The size of mules in Mesopotamia was approximately 4 feet wide and 30 yards long with the torrent some 80 feet below.[72] The best, strongest, and largest type of mules were bred in the district of Cezire, which was the primary mule breeding area in the province, followed by the mules bred in Bohtan. The mules bred in the district of Cezire were created through the mating of donkeys and horses, while mules in Bohtan were created through mating cattle and horses. The first group of mules (those of Cezire) were large and strong, while the second group of mules (those of Bohtan), called Midilli, were small.[73] As pack animals of Bayezid and Erzurum, mules were "highly prized," because they were "eating less, carrying more and being less easily fatigued

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[69] Hüseyin Binbaşı, *Memalik-I Osmaniye'nin Ziraat Coğrafyası*, 45.
[70] Sâlnâme-i Vilayet-i Diyarbekir, Defa 12, 1302/1885
[71] Orhan Yilmaz, Saim Boztepe, and Mehmet Ertugrul, "Phenotypic Characteristics of Turkish Mules," *International Journal of Agriculture and Biology*, 2012, 450.
[72] Bertram Dickson, "Journeys in Kurdistan," *The Geographical Journal* 35, no. 4 (1910): 366.
[73] Sâlnâme-i Vilayet-i Diyarbekir, Defa 12, 1302/1885.

than horses and ponies and they can travel on country quite impassable for even Bactrian camels."[74]

The provinces of Baghdad, Aleppo, Yemen, Mosul, Diyarbekir, Van, Aydın, Kastamonu, and Sivas were the important mule breeders of the Empire. The best and strongest mules were used to transport "gun carriages" (*top keşan*) in the province Van. Additionally, Syria, Diyarbekir, and Baghdad were also producers of outstanding mules in the Empire. Mules and donkeys were bred in great numbers in the Hizan valley in the district of Siird.[75] According to Binbaşı Hüseyin, for the Ottoman Army the mules from eastern provinces played a crucial role for gun carriage and transportation of soldiers.[76] Some strong mules were bred in the southern plains of the Hakkari valley and brought up to the hills when they were young. During the wintertime they were fed solely on straw and, although they were small, were very capable of carrying lighter loads. A mule load in Diyarbekir was about 360 pounds. On average, mules can walk 3.5 miles in an hour.

The dependency of traders on mules was staggeringly high in the nineteenth century, especially in the hilly and mountainous areas of Ottoman Kurdistan where mules served as the major transport animals. In times of drought, crop failure, and famine, muleteers were one of the first groups of transporters poorly affected. This was largely due to the fact that mules grazed frequently on barley and chopped straw, as well as the fact that they demand more water than all other transport animals. In a rugged geographical area, the mule was the only animal used in the caravan.[77] It was for this reason that the inhabitants of the hilly and mountainous environment of

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[74] TNA: WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia,*" Compiled in the Intelligence Division of the War Office by Captain C. E. Callwell, Vol. II (London: Harrison and Sons, 1892), 4.
[75] Saraçoğlu, *Doğu Anadolu Bölgesi*, 98.
[76] Hüseyin Binbaşı, *Memalik-i Osmaniye'nin Ziraat Coğrafyası*, 42.
[77] Dickson, "Journeys in Kurdistan," 366.

Kulp, Piran, Lice, and Hani districts, located in the northeast part of Diyarbekir, often became muleteers.[78]

Camels

Northern Africa, the Arabian Peninsula, Syria, and northern Mesopotamia were the major camel breeders of the Empire. Arab and Kurdish tribes in the provinces of Baghdad, Aleppo, and Diyarbekir were the main camel breeders. The camel was bred in the desert lands of these provinces. The camel is most efficient in the dry and semi-arid climatic zones where water is scarce and due to the camel's ability to tolerate high heat, which separates it from most of the other pack animals. According to Richard Bulliet, the camel is "a superior pack animal" to the mule and ox[79] because a camel can carry much more weight, live-longer, and walk faster.[80]

There were two types of camels in Ottoman Kurdistan. Bactrian camels were found in the Erzurum vilayet and were employed on the road from Beyazid to Erzurum. Unlike the camels in upper Mesopotamia, Bactrian camels work exceptionally well in winter as "their feet are much harder than those of the other species, and for this reason, they can travel better over stony country, being hardy and able to work both night and day, and being accustomed to travelling over snow and ice."[81] Bactrian camels suffer greatly under conditions of heavy heat. They are able to walk two days without food and "possess the usual capacity of doing without water for a considerable time."[82] Arab tribes in Mesopotamia bred camels in herds. These camels were used

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[78] Saraçoğlu, *Doğu Anadolu Bölgesi*, 73; Şevket Beysanoğlu, *Diyarbakır Coğrafyası* (İstanbul: Şehir matbaası, 1962), 35.
[79] Richard W. Bulliet, *The Camel and the Wheel* (Cambridge: Harvard University Press, 1975), 22.
[80] Ibid., 23.
[81] TNA: WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia,*" Compiled in the Intelligence Division of the War Office by Captain C. E. Callwell, Vol. II (London: Harrison and Sons, 1892), 40.
[82] TNA: WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia,*" Compiled in the Intelligence Division of the War Office by Captain C. E. Callwell, Vol. II (London: Harrison and Sons, 1892), 40.

on the road between Diyarbekir, Mardin, Cezire, Mosul, and Aleppo. Unlike donkeys and mules, which were used on rugged and hilly mountainous terrains, these camels were only used on main routes. The cost of camels was lower in the southern plains of Mesopotamia as opposed to the northern plains.[83]

[83] TNA: WO 106/6246, Confidential, "*Military Report on North-Eastern Turkey in Asia,*" Compiled in the Intelligence Division of the War Office by Captain C. E. Callwell, Vol. II (London: Harrison and Sons, 1892), 40.